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UNIVERSITY OF ALBERTA

# PREDICTORS OF LONELINESS IN THE ELDERLY

BY

LOIS M. ANDRUSKI

A thesis submitted to the Faculty of Graduate Studies and Research
in partial fulfillment of the requirements for the degree of
Master of Nursing

FACULTY OF NURSING

EDMONTON, ALBERTA

FALL, 1993

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Date

Dedication

To my parents whose absolute belief in my abilities and whose unfailing support contributed to making this a truly fulfilling experience

## ABSTRACT

The purpose of this study was to investigate the relationship between loneliness, and specific situational, emotional, and personal factors. The latter included perceived social support, significant life events, length of time in present accommodation, satisfaction with living arrangements, and depression, as well as perceived health status, marital status, age, and gender. A descriptive-correlational design was utilized with a sample of elderly individuals who were tenants in 4 randomly selected subsidized seniors' apartment complexes. Seventy-four individuals ranging in age from 60 to 94 years ($\overline{X}$= 75.81) participated in the study; of these, 55 were women, and 19 men.

Respondents were tested using the Personal Resource Questionnaire 85 (Part II), the Life Experiences Survey (Section I), the Geriatric Depression Scale, and the Revised UCLA Loneliness Scale. A series of questions was also asked to elicit data related to age, gender, marital status, length of time in present accommodation, satisfaction with present living arrangements, and perceived health status. The mean level of loneliness on a scale from 20 to 80 was 37.47. Scores ranged from 20 to 74 with higher scores reflecting higher levels of loneliness. Multiple regression analysis revealed two statistically significant predictors of loneliness, namely, perceived social support and depression. Together, these variables accounted for approximately 62% of the variance for loneliness.

Findings of this study may assist nurses to design and implement intervention programs that are responsive to the needs of the elderly who are lonely. Along with mobilizing appropriate types of support, measures such as relational skills therapy and treatment for depression may be of use.

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# CHAPTER I

# INTRODUCTION TO THE STUDY

## Statement of the Problem

Loneliness is not considered an actual sickness, but is, as Bulka (1984) describes it, "a dis - ease, an uncomfortable and undesired human condition" (p. 5). Loneliness is experienced by all at some point in life, and occurs under varying circumstances, with differing causes and consequences (Rokach, 1989). Although the history of loneliness is likely as old as humankind itself, the clinical study of it is relatively young, beginning around 1932 (Peplau & Perlman, 1982). There is a substantial amount of empirical knowledge on loneliness in the literature. However, most of this research is limited to studies involving young adults. Much less research has been directed to the study of loneliness in the elderly, and within this specific area, most research has been completed in the field of psychology, rarely, in nursing.

The majority of elderly individuals will live and manage satisfactorily in their communities through independent arrangements. However, health professionals frequently encounter lonely elders whose children do not visit, whose physical health has deteriorated, and whose lifelong support systems are no longer functional. Many live in facilities specially designated for senior citizens. They live in close proximity to each other and may participate in a selection of activities offered by the facility, if they so desire. Yet, these individuals may still experience profound feelings of isolation and loneliness.

One of the realities of aging is an increased vulnerability to loneliness. The aged, like others, need social relationships. More than the young, however, they stand

at risk of losing relationships due to death or other health related or social circumstances (Weiss, 1984). Old age is often characterized by multiple losses, many of which are devastating to the individual. These may include loss of physical well-being, loss of ability to maintain the family home, loss of income, and significant losses within the overall social support system. Such events may result in a succession of changes to many aspects of the elderly individual's life, all of which can contribute to feelings of increased isolation, depression, grief, helplessness, and, ultimately, loneliness (Lopata, 1980; Ryan & Patterson, 1987). Loneliness in the elderly has been recognized as a problem by nurses who work with these individuals in the community setting, although it has rarely been formally addressed as a health issue requiring nursing intervention. Yet, upon review of the literature, it is apparent that loneliness may contribute significantly to concerns about the health, well-being, and quality of life of the elderly (Berg, Mellstrom, Persson, & Svanborg, 1981; Kivett, 1979; Lynch, 1977; Page, Wrye, & Cole, 1986; Perlman, Gerson, & Spinner, 1978; Schultz & Moore, 1984; Sermat, 1980; Wenz, 1977).

The population of elderly individuals in our society is increasing rapidly. In 1987, one in every ten Canadians was over 65 years of age. It is projected that this will increase to one in seven by the year 2001, and to one in five by 2021 (Senior Citizens' Secretariat, 1989). Given their increasing numbers in our society, an understanding of the impact of factors that may influence loneliness in the elderly is of particular interest to nurses who work in the community. Nurses focus their care upon the well-being of all individuals throughout their life spans, but have assumed responsibility for the majority of care required by groups such as the elderly and chronically ill. Even when the need for medical intervention is minimal, the nurse's

role continues. Using a different theoretical perspective, nurses assist in at least maintaining, if not improving the individual's well-being. Therefore, knowledge of factors that influence loneliness in the elderly will be of assistance to nurses who work in the community where health maintenance and promotion are vital aspects of what they do. Research directed at improving understanding of factors contributing to loneliness in the elderly will be essential to the development of specific interventions for loneliness. Through success in identifying and controlling these factors, methods to minimize or alleviate loneliness in the elderly will be developed.

## Purpose of the Study

The purpose of this study was to explore and describe relationships among selected situational, emotional, and personal factors, and the degree of loneliness experienced by elderly individuals living in subsidized seniors' apartment complexes. Several factors were investigated based upon empirical evidence of their relationship to loneliness. These included perceived social support, significant life events, length of time in present accommodation, satisfaction with living arrangements, depression, perceived health status, marital status, age, and gender.

## Research Question

The following question was asked: "What is the relationship of loneliness in the elderly to perceived social support, significant life events, length of time in present accommodation, satisfaction with living arrangements, depression, perceived health status, marital status, age, and gender?"

## Study Framework

Possible predictors of loneliness in the elderly for this study are schematically diagrammed in Figure 1.

## Definition of Terms

The following are definitions of the terms utilized in this study:

Loneliness: The internal, subjective experience occurring in response to a quantitative and/or qualitative deficit in an individual's network of social contacts as measured by the Revised UCLA Loneliness Scale (Russell, Peplau, & Cutrona, 1980).

Perceived Social Support: "Perceived social support is defined as consisting of provision for attachment/intimacy; social integration, that is being an integral part of a group; opportunity for nurturant behavior; reassurance of worth as an individual and in role accomplishments; and the availability of informational, emotional, and material assistance" (Weinert & Tilden, 1990, pp. 212-213) as measured by the Personal Resource Questionnaire 85, Part II (Brandt & Weinert cited in Weinert, 1988).

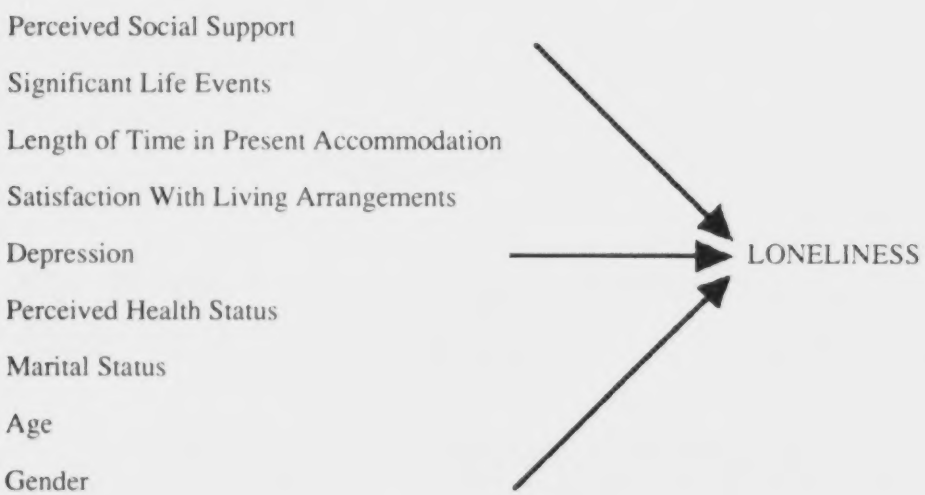
Significant Life Events: Self-reported positive and/or negative life change events as measured by the Life Experiences Survey, Section I (Sarason, Johnson, & Siegel, 1978).

Satisfaction With Living Arrangements: A self-report of the degree to which living arrangements are considered satisfactory.

Depression: A morbid sadness or melancholy associated with physical inactivity, lack of desire to socialize, and feelings of worthlessness, loss of self-esteem and thoughts of self-injury or destruction (Miller & Keane, 1983), as

Figure 1

SCHEMATIC REPRESENTATION OF PREDICTORS AND LONELINESS IN THE ELDERLY



measured by the Geriatric Depression Scale (Yesavage, Brink, Rose, Lum, Huang, Adey, & Leirer, 1983).

Perceived Health Status: A self-report or personal perception of one's own health status.

## Limitations of the Study

One of the 4 complexes surveyed in this study had a large portion of Chinese speaking tenants, many of whom were unable to respond to the self-administered questionnaire used for data collection. Individuals who did respond to the questionnaire may have differed from those who did not in terms of other important variables (eg. educational background; motivational levels). Therefore, the generalizability of the findings may be limited, as the sample is not necessarily representative of all the elderly who reside in subsidized seniors' apartment complexes. Although random sampling of tenants within all of the subsidized seniors' complexes in the greater Edmonton area would have been desirable, it would also have been unwieldy due to time, cost, and accessibility factors. To ensure the reliability of regression statistics used, large and representative samples are essential. The sample size in this study was sufficient to obtain an acceptable power for the regression equation. However, a larger sample size would certainly have been more representative of the target population overall, which, in turn, may have provided a more trustworthy picture of the impact of the selected variables on loneliness. Lastly, there is an inability to infer changes and trends over time, and to determine the temporal sequencing of phenomena with a cross-sectional study design such as was used in this study.

# CHAPTER II

# REVIEW OF THE LITERATURE

## Conceptualizing and Measuring Loneliness

Peplau and Perlman (1982) state, "Most people can unhesitatingly report whether or not they are presently lonely. Lay people may not all share exactly the same concept of loneliness, but intuitively they know what loneliness is. For everyday purposes, they have a satisfactory implicit referent for the concept" (p. 3). The essence or true nature of loneliness has not, however, been easy to articulate. Frequently, the terms "loneliness" and "alone" are used to refer to the same experience or situation. However, Bulka (1984) clearly differentiates between the experience of being alone and the experience of being lonely. Aloneness is a state or condition, whereas loneliness is a perception or feeling. Other researchers also emphasize that isolation or solitude do not necessarily result in loneliness, and loneliness may still be a problem even when there is association with others (Heltsley & Powers, 1975; Townsend, 1973; Weiss, 1973). Loneliness is definitely a human experience that occurs with or without being alone. Inanimate objects can also be alone, but they cannot feel lonely.

Feelings frequently associated with loneliness have also been identified (Rubenstein & Shaver, 1980, 1982). Analysis of these feelings resulted in recognition of four factors that are believed to assist in defining loneliness. The first factor is desperation. It is associated with feeling desperate, panicky, helpless, afraid, without hope, abandoned, and vulnerable. A second factor, self-deprecation, is associated with feeling unattractive, down on one's self, stupid, ashamed, and insecure. A third

factor, impatient boredom, is associated with feeling impatient, bored, a desire to be elsewhere, uneasy, angry, and unable to concentrate, and the fourth factor, depression, is associated with feeling sad, depressed, empty, isolated, sorry for one's self, melancholy, alienated, and longing to be with one special person. These factors may be associated with different degrees and durations of loneliness. Other studies have also identified feelings associated with loneliness. Berg et al. (1981) and Schultz and Moore (1984) found that self-reported loneliness among the elderly was associated with anxiety, depression, and feelings of futility. However, the evidence in these findings was not strong enough to suggest that loneliness was synonymous with any of these dimensions. Indeed, although loneliness may be associated with these dimensions in some manner, it is not a construct that is identical to any one of them. In fact, ongoing research has supported the view that loneliness is a distinct, albeit related construct (Andersson, 1986; Cuffel & Akamatsu, 1989; Peplau & Perlman, 1982; Russell et al., 1980; Weiss, 1973).

The perspective of the existentialist should also be considered. Here, loneliness is experienced as a philosophical awareness of the human condition and an understanding of oneself as a singular entity within the universe (Moustakas, 1961). More insight and depth regarding this philosophic stance are provided by Mijuskovic (1980). He states that human beings are both psychologically and metaphysically alone. They may not think or feel they are alone at every moment, but they really are. They simply may not be aware of this. This lack of awareness is important, however, because it implies that there is a meaningful opposite to loneliness. That is, whenever a genuine feeling of friendship is present, then loneliness is not present, at least in the conscious mind. Mijuskovic states that as a result of this, "loneliness, in

principle, becomes empirically verifiable because it does have a meaningful contradictory" (p. 68). Still, the true nature of loneliness has not been identified.

Consideration of other perspectives is also essential to assist in clarifying what loneliness means. Sullivan (cited in Peplau and Perlman, 1982) describes loneliness as "the exceedingly unpleasant and driving experience connected with an inadequate discharge of the need for human intimacy" (p. 4). Weiss (1973) broadly classifies loneliness into the two forms of emotional isolation, or the absence of an attachment figure, and social isolation, or the absence of an accessible social network. He states that emotional isolation creates a sense of utter aloneness, while social isolation may give rise to feelings of meaninglessness, aimlessness and boredom. This view suggests that differing degrees or intensities of loneliness may depend upon its origin, which can be either internal or external. This is supported by Jones (1989) and Ribeiro (1989) who agree that loneliness is influenced by both internal and external factors, and has its roots both within the individual and the external environment.

Further clarification is provided by other researchers. Perlman and Peplau (1984) state, "In our view, loneliness is the unpleasant experience that occurs when a person's network of social relationships is significantly deficient in either quality or quantity" (p. 15). Young's (1982) definition reflects that of Perlman and Peplau (1984). He defines loneliness as the absence, or perceived absence of satisfying social relationships, accompanied by related psychological stress. He proposes that social relationships can be treated as a particular class of reinforcement and that loneliness, therefore, "can be viewed in part to describe a response to the absence of important social reinforcements" (p. 380). Andersson (1986) states that "loneliness in everyday life is defined as being made up of emotional and social estrangement. In

reporting loneliness, it is sufficient that one of these be experienced" (p. 688). Each of these definitions encompasses the common elements of either a true absence, or perceived absence of social relationships, and the ensuing loss of fulfillment that occurs, fulfillment that is necessary to prevent the development of loneliness. A definition by Creecy, Berg and Wright (1985) is succinct: "...we may define loneliness as a psychological state or condition that arises as the product of complex interrelationships between losses in the individual's support system, decreased participation in social activities, and a diminished sense of social fulfillment" (p. 488). Whether loneliness originates internally and is due to a lack of perceived satisfaction in social relationships, whether it originates externally and is due to an observed lack in social relationships, or whether it is a combination of both of these, the end result is expression of dissatisfaction with, and loss of fulfillment from these relationships.

Stuewe-Portnoff (1988) delves into what is meant by loss of fulfillment, or estrangement in more depth. He proposes that estrangement from interpersonal sources of meaning is a factor that is common to apparently diverse situations that precipitate loneliness. He believes the core of loneliness to be "the experience of isolation, disorientation, or lostness within a dimensional domain of meaning" (p. 546). This is clarified through use of an analogy. Individuals may become lost as a result of the absence of familiar physical cues. Similarly, estrangement from significant others precipitates loneliness by depriving one of the cues to what one means. Just as the location of an object cannot be specified without reference to another object, defining what one means also becomes impossible without an external "to whom". Loneliness is the result. This conceptualization of loneliness probably comes closest to identifying its essence.

If it is accepted that the core of loneliness is estrangement from interpersonal sources of meaning, then this must be a common factor in situations of loneliness. This understanding makes it easier to distinguish loneliness from other emotional states, and to comprehend that other emotional states can precede, occur in conjunction with, or follow the occurrence of loneliness, but are not exactly the same. Grief might be an example of this. Grief is a reaction of deep sadness or sorrow to the loss of a loved companion, through death. Loneliness is a result of the link that is broken when a relationship has changed, or is perceived to have changed, affecting the meaning of one's life as it was defined by that relationship. The sadness and sorrow associated with grief are likely to diminish over time. However, loneliness might continue unless a new and fulfilling relationship is developed (Weiss, 1973). Depression is likely related to loneliness in a somewhat similar fashion. It may occur concomitantly with loneliness, or the two may occur independently, with one influencing development of the other. Again, they are not exactly the same (Jones, 1982). However, in situations involving grief and/or depression, it might be difficult to determine the concomitant existence of loneliness, as it may be hidden by the more consuming nature of these other states.

Loneliness as Experienced by the Elderly

Studies have revealed conflicting evidence related to the extent of loneliness in the elderly. Rubenstein and Shaver (1980) state that the elderly who responded to their study of loneliness, were significantly less lonely than younger respondents, even though they were more likely than the young to live alone. However, they had more close friends and were more satisfied with these friendships than the young. Ribeiro (1989), however, suggests that there is sufficient evidence that many elderly

individuals are seriously lonely. This is supported by other researchers who agree that loneliness in the elderly is a problem that deserves specific attention (Berg et al., 1981; Kivett, 1979; Perlman et al., 1978). Creecy et al. (1985) suggest that loneliness in these individuals is a response to environmental deficits resulting in a lack of social fulfillment or quality of social relationships. Loneliness and social fulfillment are influenced by background characteristics such as health, income, marital status, and the level or quantity of social activity that occurs. They state that "loneliness among elderly adults becomes the end product of the interrelationship between various social and psychological factors" (p. 491).

Bulka (1984), and Schultz and Moore (1989) indicate that when the independence and self-sufficiency of older adults are compromised and personal control over their lives is surrendered, they are quite likely to feel lonely. However, Creecy et al. (1985) state that age itself may not be a crucial variable in the development of loneliness. Nevertheless, it plays a significant role in that as individuals age, cumulative deficits in health, marital status, and income affect social relationships and impair support systems. In turn, this may result in lack of ability to achieve fulfilling or quality relationships because of isolation from contacts needed to prevent loneliness. Thus, the accumulation of deficits deprives the individual of fulfilling, meaningful relationships leading to a psychological state that translates into loneliness. The point is made that it might be assumed possible for older persons to lose their health, income, or spouse without necessarily experiencing loneliness and still enjoy relationships that are fulfilling, although empirical evidence suggests that this is not likely. On the other-hand, even with no cumulative deficits and numerous relationships, it is again possible for an older individual to be lonely if these

relationships are not fulfilling. However, cumulative deficits could be expected to contribute to the occurrence of loneliness with progressive age. These deficits are not generally found in the younger population of lonely individuals.

Measurement of Loneliness

Russell et al. (1980) maintain that empirical research on loneliness has been hindered because it is a variable that cannot be manipulated by researchers. They state, "Thus, the crucial task for investigators is not the development of an experimental paradigm to produce loneliness in differing degrees under controlled conditions but rather the development of instruments to detect variations in loneliness that occur in everyday life" (p. 472). Two conceptual approaches to the measurement of loneliness have been explored. The unidimensional approach views loneliness as a unitary phenomenon that varies in intensity. That is, the experience of loneliness is conceptualized as a common one, regardless of the reason for its occurrence. Therefore, no matter what the cause of loneliness might be, the same scale should be sensitive to any individual's experience of loneliness. On the other-hand, the multidimensional approach conceptualizes loneliness as multifaceted, and attempts to differentiate between various types or manifestations of it, as opposed to focusing on a common underlying loneliness experience. Multidimensional scales have the potential of identifying variations in the experience of loneliness that may be useful in treating the lonely (Russell, 1982). However, this seems to be because they assess a wide array of factors, including antecedents of loneliness, consequences of loneliness, and variables related to, but distinct from loneliness. Thus, there is need for greater clarity in the theoretical conceptualizations underlying most of the multidimensional measurement scales.

Russell (1982) states, "Researchers who subscribe to each approach must provide support for their theoretical view of loneliness in validating their measures of loneliness. So, for example, developers of unidimensional measures must demonstrate that their scale is sensitive to loneliness in a wide range of individuals varying in age, social class, and cause of social distress. Developers of multidimensional measures must demonstrate that loneliness consists of the dimensions they propose, and that their scale adequately assesses these components" (p. 101). Russell goes on to state that "although the two approaches to the assessment of loneliness appear contradictory, both may be correct. A general or common set of experiences could underlie loneliness as it is experienced by all people, but different dimensions of loneliness may also exist, reflecting different paths to this common experiential state or variations in how people respond to loneliness" (p. 101).

The majority of recent research studies have used a unidimensional, self-report measure of loneliness, the Revised UCLA Loneliness Scale (Russell et al., 1980). Indeed, it is the most widely tested, accepted, and utilized scale for measuring loneliness at this time. These researchers advocate a cognitive approach to loneliness, and propose that loneliness occurs when an individual perceives a discrepancy between the two factors of desired social contact and achieved levels of social contact.

## Correlates of Loneliness in the Elderly

Research has been invaluable in identifying the significance of loneliness as a phenomenon (Peplau & Perlman, 1982). However, investigation of factors that may relate to it are still being explored and reported in the literature. Identification of all

variables that contribute to the loneliness experience is required in order to move from testing relationships between loneliness and these variables, to systematic articulation about loneliness at the level of true theory (Derlega & Margulis, 1982; Peplau & Perlman, 1982). In this study, variables that may contribute to the occurrence of loneliness in the elderly were explored in an attempt to provide further empirical evidence of theoretical correlates of loneliness in these individuals. These variables were selected based upon a review of the literature and the present knowledge of loneliness to date. The following is an overview of the literature and research data related to these variables.

Social Support

The extent to which social support plays a part in determining the degree to which loneliness occurs has not yet been clearly articulated (Cuffel & Akamatsu, 1989). One way to assess the quality and quantity of social ties is to examine the support systems that are in place (Jones & Moore, 1989). Growing research findings indicate that social support positively influences both psychological and physical well-being (Gottlieb, 1981; Heller, 1979). It has been identified as a likely antecedent or intervening variable in a variety of health-illness states (Tilden, 1985). As well, deficiencies in support systems have been found to be significant in predicting mortality in the elderly (Blazer, 1982). However, diversity in social support requires specification of the concepts of support that are the focus of inquiry, with selection of instruments to match these concepts (Barerra, 1986). Three conceptually distinct categories or models of social support have been identified: social network, received support, and perceived support (Sarason, Sarason, & Pierce, 1990).

The social network model focuses on the integration of the individual into a group and the interconnectedness of the group members. It involves assessing the structure of the network including the dimensions of size and density, as well as the quality of relationships including the durability, intensity, and frequency of contact. Functions of each network member may also be considered within the social network. O'Reilly (1988) suggests that there is need to clarify the definition of support to end the confusion that has resulted from including components of social networks in the conception of social support. Social support is only one of the functions of the network, and members of the network provide social support through actions or behaviors that are communicated through the network's structure. O'Reilly suggests that network analysis would contribute to the understanding of how support is offered and received, but the network should not be confused with the support its members provide one another. He also states that aspects of either social support or social networks can be investigated independently.

The received model focuses on individual accounts of the support that is actually received, or objectively observed. Enacted support, or actions performed by others when they render assistance to the individual are encompassed within this model. Received support is the recipient's account of what helpful action (or action intended to be helpful) came from others.

The perceived model focuses on support the individual believes is available should it be needed, and may include the individual's satisfaction with this support. Barrera (1986) states, "Perceived social support has emerged as a prominent concept that characterizes social support as the cognitive appraisal of being reliably connected to others" (p. 416). In this sense, it is subjective in nature. Barrera goes on to state

that many measures of perceived social support consist of the two dimensions of perceived availability and adequacy of supportive ties. These dimensions attempt to assess the individual's confidence that support would be available if it was required, or determine if an environment can be characterized as helpful or cohesive.

Authors of social support measures have conceptualized social support in a variety of ways. For example, some describe types of support based upon the theoretical foundation of House (1981). These types of support include emotional or caring support, informational support or advice giving, instrumental support which may include the giving of time and labor, and appraisal support or evaluative feedback. Other authors base their measures of social support upon Weiss' s relational dimensions. Weiss focuses on the six functions of social relationships which include social integration, reliable alliance, guidance, opportunity for nurturance, reassurance of worth, and attachment/intimacy (Weiss cited in Lindsey, 1988). Still, others use the varied conceptual definitions of Cobb, Caplan, and Kahn (Lindsey, 1988).

Despite the obvious link between loneliness and the various concepts of social support, few studies have actually assessed the relationship between them (Jones & Moore, 1989). Several investigations have considered the relationship between the number of social relationships available and loneliness. Evidence firmly suggests that elderly people who are lonely have fewer social contacts than do non-lonely elderly (Perlman et al., 1978; Perlman & Peplau, 1984). However, the type of contact with others, rather than the amount of contact, may also influence the development of loneliness (Cutrona, 1982). "The reasons for loneliness are not to be found so much in the objective characteristics of the lonely person's social milieu (eg. number of

available friends or amount of social contact) as they are in the way in which lonely people perceive, evaluate, and respond to internal reality" (Jones, 1982, p. 244). Indeed, the quality rather than the quantity of social interactions may be crucial to understanding adaptations to old age (Conner, Powers, & Bultena, 1979).

A study of college students revealed that a denser social network (the interconnectedness between and importance of the members to each other), and frequency with which specific supportive behaviors occurred was predictive of less self-reported loneliness (Stokes, 1985). This was attributed to the sense of community provided by the density of the social network. Individual differences of extraversion and neuroticism were also related to loneliness, but extraversion was mediated by social network variables and students with larger networks and more support. Neuroticism and loneliness were not mediated by social network variables. Instead, their relationship may have reflected a cognitive style that predisposes an individual to neuroticism and loneliness. Another study suggested that loneliness was negatively related to both the quantity of social support and the degree of satisfaction from that support for women, but not for men (Sarason, Sarason, & Shearin, 1986).

A subsequent study determined the degree of association between loneliness and social ties in 289 beginning college students, as these changed from the first week of classes to eight weeks later (Jones & Moore, 1989). Several components of social support were assessed, including satisfaction, network size, density, and reciprocity. Analysis of the study results revealed significant inverse relationships between loneliness and each of these social support variables when measured simultaneously during the first week of classes, and then again eight weeks later. Interestingly, however, perceived loneliness did not change significantly at the end of eight weeks,

in spite of some significant changes in the structure of the students' social support systems. These included increases in the proportion of classmates, reciprocity, density of the network, and increases in confidants. The overall pattern, though, still suggested stability over time with respect to both loneliness and social support, despite statistically significant changes in certain aspects of the social support variables. That is, students who were lonely and were lacking in both quantity and quality of social support exhibited the same characteristics eight weeks later. Thus, over time, both loneliness and social support tended to remain stable.

There were several noteworthy implications of these findings. Firstly, based upon the magnitudes of the statistical relationships, the researchers did not feel that loneliness and social support were synonymous constructs. Secondly, the study provided little evidence to conclude that lack of social support was a causal factor in the occurrence of loneliness. Rather, loneliness and social support might be related but independent phenomena with common origins. Or, loneliness and social support may be mutual determinants, with increases in loneliness interfering with the maintenance of existing supportive networks or the development of new supportive relationships, and reductions in social support resulting in increased loneliness. A methodological concern is that the eight week time period between the measurements of social support and loneliness may not have been adequate. In fact, a longer measurement interval may have resulted in significant changes in loneliness.

Significant Life Events

Loneliness may be expected when individuals grieve the loss of someone to whom they were closely attached (West, Kellner, & Moore-West, 1986). Evidence also indicates that loneliness is more often associated with loss of a spouse or

companion than it is to isolated living conditions (Townsend, 1968). In a study of widows, Lopata (1980) reported that up to 86% experienced loneliness, although this decreased with an increase in number of children and the amount of support provided. Townsend's (1968) study revealed that greater numbers of lonely individuals were widowed, and that loneliness was especially prevalent in those who had been recently widowed. Again, loneliness was more intense if the widowed had infrequent contact with their children, or if they were childless. This finding has also been supported by other researchers (Berg et al., 1981; Kivett; 1979). Important discriminators of loneliness in Kivett's (1979) study of the rural elderly were adequacy of eyesight, transportation, organizational activity, sex, and frequency of telephone calls to friends, relatives, or others. The main discriminator of loneliness, however, appeared to be the physical and social losses that elderly individuals incurred, especially overall health and loss of a spouse.

Length of Time in Present Accommodation and Satisfaction With Living Arrangements

Following the occurrence of events such as a decline in physical health, or loss of a close relationship through death, elderly individuals must often make the transition from what may have been long-established living arrangements in a family home to life in a setting specifically geared to meet their needs, such as a seniors' complex, or nursing home. Success in maintaining older social ties and constructing new relationships may certainly affect the extent to which the isolation and loneliness associated with new surroundings is overcome. These may be influenced by the length of time the individual has been in his or her present accommodation as well as the degree to which these living arrangements are considered satisfactory.

Forced separation from previously significant support systems has been identified as a major reason for loneliness, especially when the separation has been imposed by social or geographical conditions (Rubenstein & Shaver, 1982). A study of loneliness among seniors revealed that loneliness was greater among those who were living in their present residence because of circumstances beyond their control rather than by personal choice (Perlman et al., 1978). The findings also indicate that alleviation of loneliness may be enhanced by increased interactions with friends and acquaintances, and that neither children nor formal social activities may be as effective. Emphasis is placed upon the importance of elderly individuals maintaining their present social networks and developing other social contacts and new friendships. However, this may be difficult if obstacles such as lack of transportation interfere with accessing social contacts that are desired (Rook, 1984).

The relationship between involuntary relocation and the life adjustment and health of elderly people was also assessed by Brand and Smith (1974). Those individuals who had experienced enforced relocation showed higher scores on life dissatisfaction, with women being affected more adversely than men. Life satisfaction was also lower among those who had relocated if they were in poor health. Finally, the amount of social interaction of the elderly with their environment was associated with relocation. Relocated individuals were generally less active and had fewer social contacts than the non-relocated, suggesting that involuntary changes may disrupt support systems and result in deleterious consequences.

In a study by Wittels and Botwink (1974), elderly community residents who relocated voluntarily to apartment complexes for older people were compared with residents who did not relocate, in an attempt to determine if the stress and potential

for crisis during relocation could be harmful to longevity. Results of the study did not support the notion that this type of relocation had a significant impact on the lives of elderly people. In a subsequent study, elderly people moving voluntarily to apartment complexes for older adults were again compared with non-movers, but this time in relation to behavioral test functioning, including cognitive and psychomotor functioning, personality and morale, health, and activities (Storandt & Wittels, 1975). The results showed that relocation of the elderly is not necessarily associated with decreased functioning. However, the researchers point out that "in almost all cases the movers remained in the same metropolitan area and many... moved only a few blocks within their previous neighborhood. Thus, the relocatees... may have maintained, without serious disruption, many aspects of their previous life styles, such as long-established social contacts, family support, and patterns of leisure activities" (p. 612).

In an attempt to determine measures that might be useful for screening older adults applying to housing facilities, Storandt, Wittels, and Botwinick (1975) studied the relationships between cognitive and psychomotor functioning, personality and morale, health and health-related habits, and pastimes and activities of elderly people. Measurements were taken at the time of moving into an apartment complex and again 11 to 19 months later. Results of the study revealed that cognitive and psychomotor functioning were predictive of the general well-being of the individuals approximately 15 months afterward, whereas personality, health and activity measures were not.

Depression

Lonely individuals appear vulnerable to a variety of unpleasant and disruptive psychological states including depression (Berg et al., 1981; Jones, Freemon, & Goswick, 1981; Russell et al., 1980). In two studies where short self-reports of depression were used, individuals who stated they were lonely also stated they felt depressed (Perlman et al., 1978; Russell, Peplau, & Ferguson, 1978). In other studies where longer depression scales such as the Beck Depression Inventory, or the Zung Self-Rating Depression Scale were used, a strong association between loneliness and depression was also found (Russell et al., 1980; Schultz & Moore, 1984; Weeks, Michela, Peplau, & Bragg, 1980; Young, 1982). However, even though the correlations between loneliness and depression may have been substantial, there has not been enough commonality of variance to suggest that loneliness is synonymous with depression (Russell et al., 1980). Indeed, not all lonely individuals are depressed, and not all depressed individuals are lonely (Peplau, 1985). Loneliness, although a separate construct, may contribute to, be a consequence of, or overlap with depression (Jones, 1982; Weiss, 1973).

Perceived Health Status

An examination of the role of loneliness in health and wellness indicates that loneliness may actually be a pathogenic factor in producing disease (Page et al., 1986). Loneliness in the elderly has been linked to somatic complaints and greater use of medication and health care services (Berg et al., 1981), self-reported poor health (Kivett, 1979; Lynch, 1977; Perlman et al., 1978; Schultz & Moore, 1984), and suicide (Sermat, 1980; Wenz, 1977). Although these may be consequences of loneliness, poor health may also contribute to its development, as might other factors

such as poor hearing (Perlman et al., 1978) and decreased eyesight (Kivett, 1979). Townsend's (1968) findings indicate a strong link between self-evaluation of poor health and loneliness. More older people who rated their health as poor or fair reported that they were lonely whether they lived alone or with others. Tunstall (1967) also found that loneliness increased in proportion to physical incapacity. It is apparent that not only do health related deficits account for the occurrence of loneliness, but they are also consequences of it.

Marital Status

An assessment of self-reported reasons for loneliness (Rubenstein & Shaver, 1982) revealed that individuals who indicated they had been lonely in the past year attributed it to being unattached (having no spouse, no sexual partner, or breaking up with a spouse). Page and Cole (1991) reported that unmarried individuals were more lonely than those who were married. Frequency of loneliness was higher among those who were separated (29.6%) than among those who were divorced (20.5%), widowed (20.6%), never married (14.6%), and married (4.7%).

Age

A longitudinal follow-up of subjects in a Danish study showed that feelings of loneliness increased from 12% at 62 years of age, to 23% at 72 years of age (Olsen et al. cited in Berg et al., 1981). Townsend (1968) found that loneliness in the post retirement years was a common problem. Other studies have indicated that the very elderly (over 80 years of age) are significantly more lonely than other elderly (Dean, 1962; Tunstall, 1967). In their study of demographic predictors of loneliness, Page and Cole (1991) reported that loneliness increased in the 65-69 age group, and again in the 70 and older age group. Dean (1962) suggested that for the very elderly,

loneliness was linked to reduced activity due to physical incapacity and to lack of money or transportation, rather than to an absence of social contact.

Gender

In a study involving a population of 70-year-old Swedish people (Berg et al., 1981), loneliness was a problem to 24% of the women and 12% of the men. These results were also supported by Page and Cole (1991). In their study, 12.2% of the women in the sample reported being lonely, compared with only 8.7% of the men. However, researchers have found that men are less likely to admit to being lonely than women, possibly because of social forces that discourage them from doing so (Borys & Perlman, 1985; Page & Cole, 1991).

# CHAPTER III

# METHODS AND PROCEDURES

## Research Design

In this descriptive-correlational study, the relationships between loneliness in the elderly and a selection of independent variables were explored through the use of a structured questionnaire, and a cross-sectional data collection method. The independent variables included perceived social support, significant life events, length of time in present accommodation, satisfaction with living arrangements, depression, perceived health status, marital status, age, and gender. The dependent variable was loneliness.

## Sample Selection

A form of cluster sampling was used to obtain the sample for this study. A complete list of all subsidized seniors' complexes within the greater Edmonton area was obtained from the Society for the Retired and Semi-Retired. From this list, a simple random selection of four complexes was made. Within three of these complexes, all tenants were invited to participate in the study. Within one complex, only two floors of tenants were invited to participate, based upon the wishes of the manager. Thus, the target population from which the sample for this study was taken was the group of elderly individuals, both male and female, 60 years of age or over, who were tenants in subsidized seniors' apartment complexes within the greater Edmonton area. Any senior citizen who is mentally and physically self-sufficient, and has been a resident of Alberta for one year is eligible for this type of

accommodation. Seniors often choose this type of accommodation when they are no longer able, or no longer desire to look after homes of their own. Rental rates are 25% of gross monthly income, with additional charges for power, cable television, telephone, and parking. Criteria for selecting a sample included tenants in the four complexes who completed and returned the questionnaire. These complexes included: Complex #1, located in the Woodcroft district; Complex #2, located in the Boyle Street district; Complex #3, located in the Oliver district; and lastly, Complex #4, located in the city center.

In total, 239 questionnaires were distributed. The approximate overall response rate was 37%. The response rate after exclusion of a number of questionnaires was 31%. The numbers of questionnaires returned completed, numbers completed through telephone or in person interviews, and numbers excluded, along with the rationale for their exclusion are described in Table 3.0. A total sample size of 74 was obtained. Power analysis was completed with a non-directional alpha set at .05. Using multiple linear regression analysis, with one dependent variable and nine independent variables, a moderate effect size required a sample of 73 subjects in order to obtain an acceptable power of .80 (Cohen & Cohen, 1983).

## Data Collection Procedures

Individual managers or tenants' associations within each apartment complex were informed about the study and the proposed methods of data collection, and permission to enter each building was obtained. Initially, a flyer informing the tenants about the study was either posted throughout the buildings or circulated under

Table 3.0

Questionnaire Returns

| Response Rates for Questionnaires | n |
|---|---|
| Returned fully completed by respondents | 54 |
| Returned partially completed - agreed to complete by telephone interview | 11 |
| Requested in person interviews in own homes to complete | 4 |
| Completed at prearranged group meetings | 5 |
| Total | 74 |

| Reasons for Excluding Questionnaires | n |
|---|---|
| Returned unanswered | 11 |
| Returned partially completed - unable to contact | 2 |
| Returned partially completed - unwilling to complete | 2 |
| Total | 15 |

tenant doors, asking if they would consider completing a questionnaire that they would be receiving in one week's time.

Three methods were used to collect the data for this study. Firstly, questionnaires were placed under tenant doors, with a covering letter explaining the purpose of the study (see Appendix A). It was emphasized that there were no right or wrong answers to the questions, and respondents were encouraged to respond as truthfully as possible. All information was printed in large type to allow for ease in reading and completion of the questionnaire. Each questionnaire was coded with a capitalized letter of the alphabet that identified the apartment complex and a number that identified the specific apartment, but was not the same as the actual apartment. A master list linking the code numbers to the tenant in each apartment was kept by the researcher in a location separate from the data. This was done to ensure anonymity of the respondents to all others except the researcher. Based upon the coding system, the researcher was able to determine those respondents who completed and returned the questionnaires, as well as those who had not. A reminder notice was then placed under the doors of tenants who did not respond within 2 weeks of the initial request, again asking if they would complete the questionnaire. Once completed, respondents in each complex placed their questionnaires in a designated sealed box inside the door of the manager's office. Secondly, respondents were encouraged to contact the researcher by phone if they wanted to complete the questionnaire, but needed assistance or further information. Eight individuals called for further information about the study and the questionnaire. Four were interviewed in person in their homes to complete the questionnaire. The researcher also contacted 13 respondents who had left items on the questionnaire unanswered. These individuals agreed to

answer those items at that time, thereby completing the questionnaire in full. Thirdly, specified dates, times, and meeting places were arranged at three of the complexes where the researcher was available to assist respondents to complete their questionnaires. Only five questionnaires, in total, were completed at these meetings, although a number of individuals came to socialize.

## Instruments

The questionnaire used in this study consisted of a series of items requesting demographic, living arrangement, and health status information (see Appendix B), Section I of the Life Experiences Survey (Sarason et al., 1978), Part II of the Personal Resource Questionnaire 85 (Brandt & Weinert cited in Weinert, 1988), the Geriatric Depression Scale (Yesavage et al., 1983), and the Revised UCLA Loneliness Scale (Russell et al., 1980).

### The Life Experiences Survey

Section I of the Life Experiences Survey (LES) consists of 47-items assessing life change events that may have occurred within the past year of an individual's life, and the impact those events may have had (see Appendix C). Spaces are also provided on the instrument for respondents to add events they have experienced, but are not among those listed. Respondents are instructed to identify those events they have recently experienced and to rate their impact on a 7-point scale, from extremely negative (-3), to no impact (0), to extremely positive (+3). Scoring the LES involves summing the ratings of those events indicated by the respondent as having a positive impact, yielding a positive life change score, and those events designated as having a negative impact, yielding a negative life change score. The items on this instrument

represent life change experience within the general population. Several items not applicable to the elderly were removed for the purpose of this study. They included items 11, 12, 33, 34, 42, and 46, which were, respectively: Male: Wife/girlfriend's pregnancy; Female: Pregnancy; Male: Wife/girlfriend having abortion; Female: Having abortion; Ending formal schooling; Leaving home for the first time. Section II, which was not used in this study, pertains to life changes experienced by student populations within the academic environment.

The LES was developed to eliminate shortcomings of previous life event or life change measures (Sarason et al., 1978). The advantage of using the LES is that it allows respondents to distinguish positive, or desirable life change events from negative, or undesirable ones. Discriminating desirable from undesirable change is of importance, because negative change has been found to correlate more consistently with personal maladjustment and depression than positive change (Sarason et al., 1978). Test-retest reliabilities of the LES in two studies of 34 and 54 subjects yielded, respectively, reliability coefficients for the negative change score of .56 and .88 ($p<.001$), and coefficients of .19 and .53 ($p<.001$) for the positive change score over five to six week intervals (Sarason et al., 1978). The coefficients for the total score were .63 and .64 ($p<.001$). These results suggest that the instrument is moderately reliable, especially when negative change and total change scores are considered (Sarason et al., 1978).

Convergent validity was demonstrated by correlating the LES with the stress related measures of anxiety, as measured by the State-Trait Anxiety Inventory, and depression, as measured by the Beck Depression Inventory. Results showed that the total and negative change scores correlated significantly and in a positive direction

with state and trait anxiety, r=.24 (p<.05) to r=.37 (p< .001), and r=.29 (p< .01) to r=.46 (p<.001), whereas the positive change score was not significantly related to either measure (r=.04 to .03). A significant relationship between negative change and scores on the Beck Depression Inventory was also obtained, r=.24 (p<.05).

The Personal Resource Questionnaire

The Personal Resource Questionnaire (PRQ85) is a two-part measure of an individual's perceived social support system. Investigators who choose a subjective appraisal of support "argue that the critical difference for health lies in the subjective belief or perception of support, not in an objectively quantified amount of support" (Tilden, 1985, p. 203). Part I of the instrument, which was not used in this study, elicits descriptive data about the individual's resources and whether these resources are satisfying. Part II, which was used in this study, consists of a 25-item, 7-point Likert scale that measures the respondent's level of perceived social support (see Appendix D). It is based upon Weiss's relational dimensions of (1) provision for attachment/intimacy, (2) social integration - being part of a group, (3) opportunity for nurturant behavior, (4) reassurance of worth as an individual and in role accomplishments, and (5) the availability of informational, emotional, and material help. Scores range from 25 to 175 with higher scores indicating higher levels of perceived social support.

The PRQ85 was the outcome of extensive use and testing of a previous version of the instrument, the PRQ82. Originally, Part II of the scale was hypothesized as a five dimensional structure, with reliability coefficients suggestive of only average internal consistency for several of the subscales (Weinert & Brandt, 1987). Further analysis has suggested that the instrument is composed of three

factors, identified as Intimacy/Assistance, Integration/Affirmation, and Reciprocity (Weinert & Tilden, 1990).

In three initial studies using the PRQ85, Part II, high internal consistency coefficients were obtained for the total scale (Weinert, 1987). The first study involved a sample of 132 older persons living in a mobile home park. Here, a cronbach's alpha coefficient of .87 was obtained (Muhlenkamp cited in Weinert, 1987). In the second study of 100 middle-aged adults, an alpha coefficient of .90 was obtained (Catanzaro cited in Weinert, 1987), and in the third study of 132 middle aged men and women, an alpha coefficient of .89 was obtained (Weinert cited in Weinert, 1987). A chronbach's alpha coefficient of .90 was obtained for this instrument in the present study.

Validity evidence for the PRQ85 has also been supported. In two separate studies, the PRQ85 was compared with another social support instrument, the Cost and Reciprocity Index (CRI) (Weinert & Tilden, 1990). Criterion related validity was demonstrated by correlating scores on the PRQ85 with criterion measures on the CRI. The validity coefficient obtained was .90. In addition, an alpha coefficient of .91 was obtained when the relationships between several social support measures and a measure of individual affective states were assessed. Correlational results between the PRQ85 and the CRI also indicated that both measures were assessing the same construct, yet were not redundant, providing evidence for the convergent validity of these scales. As well, previous research, demonstrating a strong positive effect of social support on family functioning and dyadic satisfaction and consensus, suggested that correlations between the PRQ85 and the CRI, with two family well-being measures, should be comparable to these previous results. The correlations were

moderate and positive (r=.37 to .55) as expected. Discriminant validity was assessed by comparing the PRQ85 to theoretically relevant mental health concepts. The results revealed an expected moderate inverse correlation of the PRQ85 with mood states (r=-.31) as measured by the Profile of Mood States (POMS) scale. Correlations for the POMS subscales were comparable for both the PRQ85 and CRI, thereby supporting their conceptually consistent underpinnings. The PRQ85 was also inversely correlated with the POMS depression subscale (r=-.48), lending evidence to support the PRQ85 as a measure that is related to, but not the same as depression (Weinert & Tilden, 1990).

The Geriatric Depression Scale

The Geriatric Depression Scale (GDS) is a 30-item instrument designed specifically for rating depression in the elderly (see Appendix E). Questions on the instrument are answered using a yes/no format. Of the 30 questions on the GDS, 20 indicate the presence of depression when answered positively, while ten others indicate depression when answered negatively. The total depression score is computed with a rating of 1 given to 'yes' responses to questions 2, 3, 4, 6, 8, 10, 11, 12, 13, 14, 16, 17, 18, 20, 22, 23, 24, 25, 26, 28, as well as to 'no' responses to questions 1, 5, 7, 9, 15, 19, 21, 27, 29, 30. Scores range from 0 to 30, with higher scores indicating higher levels of depression. Scores of between 0 to 10 are considered within the normal range (Brink, Yesavage, Lum, Heersema, Adey, & Rose, 1982).

The GDS was developed based upon the need for a tool to measure depression in the elderly (Yesavage et al., 1983). The instrument has been tested for internal consistency, yielding a cronbach's alpha coefficient of .94, and a split-half reliability

coefficient of .94 using the Spearman-Brown formula. A test-retest coefficient of .85 ($p<.001$) was obtained after a one week period (Yesavage et al., 1983). A cronbach's alpha coefficient of .89 was obtained for this instrument in the present study. Validity of the GDS as a measure of depression was assessed by classifying subjects according to Research Diagnostic Criteria for depression as normal (non-depressed), or as severely depressed. Normal subjects were expected to receive low GDS scores, whereas severely depressed subjects were expected to score high on the measure. The results were highly significant, providing evidence for the validity of the instrument. Convergent validity was also supported. A correlation of .83 was found between the GDS and the Hamilton Rating Scale for Depression (HRS-D), and a correlation of .84 was found between the GDS and the Zung Self-Rating Depression Scale (SDS). Both the HRS-D and the SDS have been validated as measures of depression (Hamilton, 1960; Zung, 1965).

The Revised UCLA Loneliness Scale

The Revised UCLA Loneliness Scale (UCLA) is a 20-item instrument which yields a single, global index of loneliness (see Appendix F) and is the most widely used instrument for the assessment of loneliness (Bowling, 1991). Subjects identify how often they feel the way described in each of the statement items and a total loneliness score is computed based on the sum of responses to the items. Scores on the scale range from 20 to 80. The higher the score obtained, the higher the level of loneliness.

The UCLA scale was the outcome of extensive use and testing of an initial version of the scale (Russell et al., 1980). The revised scale has subsequently been used to assess loneliness in a variety of studies and with various populations

(McWhirter, 1990). Results of the initial studies of the revised scale, using a sample of 162 students at UCLA and another sample of 237 college undergraduates from the University of Tulsa and UCLA, revealed high internal consistency coefficients of .94 in both cases (Russell et al., 1980). An equivalency test, whereby the original scale was compared with the Belcher Extended Loneliness Scale, resulted in an internal consistency coefficient of .89 for the UCLA Scale (Solano, 1980). A cronbach's alpha coefficient of .89 was obtained for this instrument in the present study.

Concurrent validity of the scale was also supported using the student samples from UCLA and the University of Tulsa and UCLA, with loneliness scores significantly related to social activities and relationships. Lonelier students spent more time alone, whereas less lonely students had more close friends. Students who were dating or married were less lonely than students who were not dating at all. Discriminant validity was also assessed to determine whether the scale actually measured loneliness, or whether loneliness is so highly related to other constructs such as depression or low self-esteem that these latter constructs are actually being measured by the scale. Scores on the revised UCLA scale were examined to determine if they were more highly related to a self-labeling loneliness index (indicating convergent validity) than to scores on other mood and personality measures, including depression, anxiety, self-esteem, introversion-extraversion, assertiveness, sensitivity to rejection, affiliative tendencies, lying, and social desirability (indicating discriminant validity). Results supported the discriminant validity of the scale; the loneliness index explained an additional 18% of the variance in loneliness scores beyond that accounted for by the mood and personality measures

(Russell, 1982). These results support the evidence that loneliness is a distinct psychological experience.

The scale has also been tested on an aged population. Perlman et al. (1978) used the first, unrevised version of the UCLA scale to examine loneliness in a sample of 158 senior citizens. A significant correlation of loneliness scores with an index of the frequency and intensity of the respondents' self-rated current loneliness was obtained (r=.72), thereby supporting the validity of the scale. Other researchers, using the revised UCLA scale, completed a study of loneliness and examined correlates, attributions and coping among older adults (Schultz & Moore, 1984). The internal consistency coefficient of the revised scale in this study was .93. Assessment of concurrent validity revealed that loneliness did correlate with depression and anxiety, but support was still maintained for the distinct and separate nature of each of these constructs. In another study, a sample of 284 elderly people was tested using the revised UCLA scale (Russell & Cutrona cited in Walton, Shultz, Beck, & Walls, 1991). The scale had a high internal consistency coefficient of .89, and a high test-retest reliability coefficient of .73 at the end of 12 months. Significant correlations of loneliness scores with social support and mental health supported concurrent validity of the scale.

## Ethical Considerations

This study was approved by the Faculty of Nursing, University of Alberta and Division of Nursing, University of Alberta Hospitals Joint Ethics Review Committee. The researcher provided a written letter of introduction explaining the purpose and requirements of the study, as well as the time involved and the projected use of the

data. Data were collected on a self-administered questionnaire. Consent to participate was assumed with voluntary completion of the questionnaire. Respondents were advised that there were no risks or benefits involved in participating in the study. They were also told that results of the study would provide nurses with a greater understanding of the needs of senior citizens in the community. Respondents were provided with the phone number of the researcher if they had any concerns or questions about the study, or wanted assistance to complete the questionnaire. The letter of introduction was subject to analysis using the Right Writer program to ensure a maximum readability level of Grade 7.

Anonymity of the respondents to all but the researcher was guaranteed, and they were asked not to place their names on questionnaires. The researcher was able to identify respondents based upon the coding system used. A master list linking the code numbers to the tenant in each apartment was kept in a locked cupboard, and in a location separate from the data. A respondent who scored greater than 20 on the Geriatric Depression Scale, indicating severe depression (Yesavage, et al., 1983), was contacted by the researcher and offered assistance to obtain appropriate help.

## Data Analysis

Data from the questionnaires were entered into the computer by the researcher using the Statistical Package for the Social Sciences (SPSS). Descriptive statistical analyses were completed, and the age range, mean, and standard deviation were summarized for the entire sample and according to gender. Percentages associated with each category of the independent variables including length of time in present accommodation, satisfaction with present living arrangements, perceived health

status, and marital status were reported for each gender and the total sample. The ranges, mean values, and standard deviation scores associated with perceived social support, significant life events, and depression were determined. Levels of loneliness were also assessed according to range, mean value, and standard deviation scores.

In order to assess the relationships among the variables of interest (perceived social support, significant life events, length of time in present accommodation, satisfaction with living arrangements, depression, perceived health status, marital status, age, and gender) and loneliness experienced by the elderly, a stepwise multiple regression analysis was performed. Using this procedure, it was determined which of the independent variables under investigation best accounted for, or predicted the variability in the dependent variable. Beginning with the variable that most highly correlated with loneliness, the stepwise procedure systematically entered variables into the regression equation until additional variables no longer significantly increased the value of $R^2$ (Polit & Hungler, 1987).

# CHAPTER IV

# FINDINGS

## Descriptive Statistics

### Age and Gender Characteristics

A total of 74 individuals ranging in age from 60 to 94 years of age took part in the study. The mean age of the total sample was 75.81 years (SD=8.97). The percentage of those over 80 years of age was 36.5% (n=27). The ratio of women to men in the sample was approximately 3 to 1, respectively. This was reasonably representative of the complexes selected, as reported by the managers. The number of women who participated in the study was 55 (74.3%), with a mean age of 77.38 (SD=8.74). The age range for the women was from 60 to 94 years. The percentage of women over 80 years of age was 16.4% (n=9). The total number of men who participated in the study was 19 (25.7%), with a mean age of 71.26 (SD=8.24). The age range for the men was from 60 to 88 years. The percentage of men over 80 years of age was 15.8% (n=3) (see Table 4.0).

### Length of Time in Present Accommodation

The mean length of time individuals had lived in their present accommodations was 6 years, 6 months, with a range from 2 months to 26 years, 4 months. Of those respondents in the total sample, 5.5% had been in their present accommodations for less than 6 months, another 4.1% for 6 months to less than 1 year, 8.1% for 1 year to less than 1 1/2 years, 4.1% for 1 1/2 years to less than 2 years, and 78.3% for 2 years or more. For the women, the mean length of time in their present accommodations was 7 years, 3 months, with a range from 2 months to 26 years, 2 months. The mean length of

Table 4.0

Age and Gender Characteristics

| Total Sample n=74 | Mean | SD | Range | % > 80 Yrs |
|---|---|---|---|---|
| Age | 75.81 | 8.97 | 60-94 | 36.5 (n=27) |

| Age by Gender | **Female** n=55 (74.3%) | | | | **Male** n=19 (25.7%) | | | |
|---|---|---|---|---|---|---|---|---|
| | Mean | SD | Range | % > 80 Yrs | Mean | SD | Range | % > 80 Yrs |
| Age | 77.38 | 8.74 | 60-94 | 16.4 (n=9) | 71.26 | 8.24 | 60-88 | 15.8 (n=3) |

time for men was 4 years, 6 months, with a range from 10 months to 15 years, 4 months (see Table 4.1).

Satisfaction With Living Arrangements

Of the respondents in the total sample, 74.3% were very satisfied with their living arrangements. The rest were fairly satisfied (17.6%), neither satisfied nor dissatisfied (5.4%), or fairly dissatisfied (2.7%). None considered themselves dissatisfied. Of the women, 83.6% were very satisfied, 14.5% were fairly satisfied, and 1.8% were neither satisfied nor dissatisfied. None considered themselves fairly dissatisfied or dissatisfied. Of the men, 47.4% were very satisfied, 26.3% were fairly satisfied, 15.8% were neither satisfied nor dissatisfied, and 10.5% were fairly dissatisfied. None considered themselves dissatisfied (see Table 4.2).

Perceived Health Status

Only 2.7% of the respondents in the total sample felt their health was excellent. Most felt their health was either very good (32.4%) or good (33.8%). Another 28.4% felt their health was fair, and only 2.7% felt their health was poor. A perceived health status rating of excellent was given by 1.8% of the women, very good by 29.1%, good by 38.2%, fair by 29.1%, and poor by 1.8%. A rating of excellent was given by 5.3% of the men, very good by 42.1%, good by 21.1%, fair by 26.3%, and poor by 5.3%. (see Table 4.3).

Marital Status

Of the respondents in the total sample, 14.9% had never married, 9.5% were married, 17.6% were divorced, 2.7% were separated, and 55.4% were widowed. Of the women, 7.3% had never married, another 7.3% were married, 14.5% were divorced, 3.6% were separated, and 67.3% were widowed. Of the men, 36.8% had never married, 15.8% were married,

Table 4.1

Length of Time in Present Accommodation

| Total Sample n=74 | Mean | Range |
|---|---|---|
| Length of Time in Present Accommodation | 6 yrs, 6 mos | 2 mos to 26 yrs, 4 mos |

| | n | % |
|---|---|---|
| < 6 months | 4 | 5.5 |
| 6 months to < 1 year | 3 | 4.1 |
| 1 year to < 1 1/2 years | 6 | 8.1 |
| 1 1/2 years to < 2 years | 3 | 4.1 |
| 2 years or more | 58 | 78.3 |

| By Gender | **Female** n=55 | | **Male** n=19 | |
|---|---|---|---|---|
| | Mean | Range | Mean | Range |
| Length of Time in Present Accommodation | 7 yrs, 3 mos | 2 mos to 26 yrs, 2 mos | 4 yrs, 6 mos | 10 mos to 15 yrs, 4 mos |

Table 4.2

Satisfaction With Present Living Arrangements

| | Female n=55 | % | Male n=19 | % | Total n=74 | % |
|---|---|---|---|---|---|---|
| Very satisfied | 46 | 83.6 | 9 | 47.4 | 55 | 74.3 |
| Fairly satisfied | 8 | 14.5 | 5 | 26.3 | 13 | 17.6 |
| Neither satisfied nor dissatisfied | 1 | 1.8 | 3 | 15.8 | 4 | 5.4 |
| Fairly dissatisfied | 0 | 0.0 | 2 | 10.5 | 2 | 2.7 |
| Dissatisfied | 0 | 0.0 | 0 | 0.0 | 0 | 0.0 |

Table 4.3

Perceived Health Status

| | Female n=55 | % | Male n=19 | % | Total n=74 | % |
|---|---|---|---|---|---|---|
| Excellent | 1 | 1.8 | 1 | 5.3 | 2 | 2.7 |
| Very Good | 16 | 29.1 | 8 | 42.1 | 24 | 32.4 |
| Good | 21 | 38.2 | 4 | 21.1 | 25 | 33.8 |
| Fair | 16 | 29.1 | 5 | 26.3 | 21 | 28.4 |
| Poor | 1 | 1.8 | 1 | 5.3 | 2 | 2.7 |

26.3% were divorced, and 21.1% were widowed. None were separated (see Table 4.4).

Perceived Social Support

The possible range of scores on the Personal Resource Quesionnaire 85, Part II was from 25 to 175, with higher scores indicating higher levels of perceived social support. The observed range was from 56 to 172. The mean total perceived social support was 128.86 (SD=20.54). Interestingly, the mean perceived social support for women was 132.82 (SD=18.8), whereas for men, it was lower at 117.42 (SD=21.53). However, this finding was not statistically significant at the .05 level (t-test). The range in scores for women was from 56 to 172, and for men from 87 to 163 (see Table 4.5). Each of the items on the scale was scored from 1 to 7. The items with the lowest mean scores, considered most problematic to the respondents, included: I belong to a group in which I feel important; I can't count on my relatives and friends to help me with my problems; There is little opportunity in my life to be giving and caring to another person; There is no one to talk to about how I am feeling; I have the opportunity to encourage others to develop their interests and skills; I feel no one has the same problems as I; I am responsible for helping provide for another person's needs; People think that I'm not as good a friend as I should be (see Table 4.6).

Significant Life Events

The experience of negative life change events over the past year, as measured by the Life Experiences Survey, was reported by a total of 40 respondents. The assumption was made that the remainder of respondents did not experience any negative changes during that period of time. The number of negative events per respondent ranged from 1 to a total of 9 throughout the year. Negative change scores ranged from 1 to a total of 21, with a mean of 6.38 (SD=5.52). The mean scores for

Table 4.4

Marital Status

| | Female n=55 | % | Male n=19 | % | Total n=74 | % |
|---|---|---|---|---|---|---|
| Never Married | 4 | 7.3 | 7 | 36.8 | 11 | 14.9 |
| Married | 4 | 7.3 | 3 | 15.8 | 7 | 9.5 |
| Divorced | 8 | 14.5 | 5 | 26.3 | 13 | 17.6 |
| Separated | 2 | 3.6 | 0 | 0.0 | 2 | 2.7 |
| Widowed | 37 | 67.3 | 4 | 21.1 | 41 | 55.4 |

Table 4.5

Summary of Respondents' Scores on the PRQ(85), LES, GDS, and Revised UCLA Loneliness Scales

| Instrument | Variable Assessed | Possible Range of Scores | Observed Range of Scores | Mean | SD |
|---|---|---|---|---|---|
| PRQ85 | **Perceived Social Support** | | | | |
| | Total n=74 | 25-175 | 56-172 | 128.86 | 20.54 |
| | Females n=55 | | 56-172 | 132.82 | 18.8 |
| | Males n=19 | | 87-163 | 117.42 | 21.53 |
| LES | **Negative Life Change Events** | | | | |
| | Total n=40 | | 1-21 | 6.83 | 5.52 |
| | Females n=31 | | 1-21 | 6.74 | 5.48 |
| | Males n=9 | | 2-19 | 5.11 | 5.82 |
| | **Positive Life Change Events** | | | | |
| | Total n=36 | | 1-20 | 6.11 | 4.50 |
| | Females n=23 | | 2-20 | 7.00 | 5.48 |
| | Males n=13 | | 1-20 | 5.92 | 5.68 |
| GDS | **Depression** | | | | |
| | Total n=74 | 0-30 | 0-23 | 7.43 | 6.04 |
| | Females n=55 | | 0-23 | 7.49 | 5.89 |
| | Males n=19 | | 0-23 | 7.26 | 6.62 |
| UCLA | **Loneliness** | | | | |
| | Total n=74 | 20-80 | 20-74 | 37.47 | 9.66 |
| | Females n=55 | | 20-74 | 36.24 | 8.90 |
| | Males n=19 | | 22-56 | 41.05 | 11.07 |

Table 4.6

Mean Scores of Items in the Personal Resource Questionnaire 85 (n=74)

| | Items | Mean | SD |
|---|---|---|---|
| 1 | There is someone I feel close to who makes me feel secure. | 5.6 | 1.3 |
| 2 | I belong to a group in which I feel important. | 4.7 | 1.5 |
| 3 | People let me know that I do well at my work. | 5.0 | 1.4 |
| 4 | I can't count on my relatives and friends to help me with my problems. | 4.4 | 2.1 |
| 5 | I have enough contact with the person who makes me feel special. | 5.4 | 1.3 |
| 6 | I spend time with others who have the same interests that I do. | 5.4 | 1.3 |
| 7 | There is little opportunity in my life to be giving and caring to another person. | 4.4 | 1.9 |
| 8 | Others let me know that they enjoy working with me. | 5.2 | 1.2 |
| 9 | There are people who are available if I needed help over an extended period of time. | 5.3 | 1.5 |
| 10 | There is no one to talk to about how I am feeling. | 4.6 | 1.9 |
| 11 | Among my group of friends we do favors for each other. | 5.3 | 1.2 |
| 12 | I have the opportunity to encourage others to develop their interests and skills. | 4.7 | 1.5 |
| 13 | My family lets me know that I am important for keeping the family running. | 5.0 | 1.8 |
| 14 | I have relatives and friends who will help me out even if I can't pay them back. | 5.5 | 1.2 |
| 15 | When I am upset there is someone I can be with who lets me be myself. | 5.1 | 1.6 |
| 16 | I feel no one has the same problems as I. | 4.9 | 1.5 |
| 17 | I enjoy doing little extra things that make another persons life more pleasant. | 5.8 | 1.2 |
| 18 | I know that others appreciate me as a person. | 5.7 | .99 |
| 19 | There is someone who loves and cares about me. | 5.9 | 1.3 |
| 20 | I have people to share social events and fun activities with. | 5.5 | 1.3 |
| 21 | I am responsible for helping provide for another person's needs. | 4.2 | 1.7 |

| | | | |
|---|---|---|---|
| 22 | If I need advice there is someone who would assist me to work out a plan for dealing with the situation. | 5.6 | 1.3 |
| 23 | I have a sense of being needed by another person. | 5.0 | 1.6 |
| 24 | People think that I'm not as good a friend as I should be. | 4.9 | 1.6 |
| 25 | If I got sick there is someone to give me advice about caring for myself. | 5.5 | 1.4 |

women and men were 6.74 (SD=5.48), and 5.11 (SD=5.82), respectively. The range in scores for women was from 1 to 21, and for men from 2 to 19 (see Table 4.5 again).

The events categorized by the respondents as negative included: death of a close friend (n=14), major personal illness or injury (n=13), serious illness or injury of close family member (n=13), major change in eating habits (n=12), major change in sleeping habits (n=10), major change in social activities (n=9), death of a close family member other than spouse (n=6), major change in financial status (n=4), major change in closeness of family members (n=4), death of spouse (n=4), major change in usual type and/or amount of recreation (n=3), sexual difficulties (n=3), breaking up with male or female friend (n=3), loss of mobility (n=3), major change in living conditions (n=2), serious illness or injury of close friend (n=2), major change in church activities (n=2), marital reconciliation (n=2), marital separation (n=1), major change in number of arguments with spouse (n=1), move to a new residence (n=1), son or daughter leaving home (n=1), looking for a new residence (n=1), and noise from disco in rear of building (n=1).

The experience of positive life change events during the past year was reported by a total of 36 respondents. Again, the assumption was made that the remainder of respondents did not experience any notable positive life changes during that time period. The number of these events throughout the year, per respondent, also ranged from 1 to 9. Positive change scores ranged from 1 to 20 with a mean of 6.11 (SD=4.50). The mean scores for women and men were 7.0 (SD=5.48), and 5.92 (SD=5.68), respectively. The range in scores for women was from 2 to 20, and for men from 1 to 20 (see Table 4.5 again). The events categorized by the respondents as

positive included: major change in closeness of family members (n=12), outstanding personal achievement (n=8), major change in financial status (n=8), major change in eating habits (n=7), major change in sleeping habits (n=7), gaining a new family member (n=7), major change in usual type and/or amount of recreation (n=6), major change in social activities (n=6), major change in church activities (n=5), move to a new residence (n=5), relationship with a new friend (n=3), visit from relative (n=2), marriage (n=2), changed work situation (n=1), retirement from work (n=1), major change in living conditions of family (n=1) breaking up with male or female friend (n=1), abstinence from alcohol (n=1), looking for a new residence (n=1), marital separation from mate (n=1), major change in number of arguments with spouse (n=1), borrowing less than $10,000 (n=1), and health care help (n=1).

Depression

A high score on the Geriatric Depression Scale reflects higher levels of depression. The possible range of scores on this scale is from 0 to 30. The observed range was from 0 to 23 for the entire sample, as well as for both women and men. A mean of 7.43 (SD=6.04) was obtained for the entire sample. This is reasonably close to the mean score on the GDS of 5.0 (SD=3.63) for a sample of 20 non-depressed elderly (Brink et al., 1982). The mean scores for women and men were, respectively, 7.49 (SD=5.89), and 7.26 (SD=6.62), (see Table 4.5 again). A total of 4 respondents scored greater than 20 on the GDS, indicating high levels of depression. All of these respondents were under a physician's care and 2 were taking antidepressant medication.

Loneliness

The possible range of scores on the Revised UCLA Loneliness Scale is from 20 to 80, with higher scores reflecting higher degrees of loneliness. The observed range of scores was from 20 to 74. The mean loneliness score was 37.47 (SD=9.66). The mean score for women was 36.24 (SD=8.90), whereas for men it was slightly higher at 41.05 (SD=11.07). This was not a statistically significant finding at the .05 level (t-test). The range in scores for women was from 20 to 74, and for men from 22 to 56 (see Table 4.5 again). Each of the items on the scale was scored from 1 to 4. The items with the highest means, considered most problematic to the respondents, included: I lack companionship; There is no one I can turn to: I am no longer close to anyone; My interests and ideas are not shared by those around me; My social relationships are superficial; No one really knows me well; People are around me but not with me (see Table 4.7).

## Multiple Regression Analysis

Predictors of Loneliness

The findings, after performing the multiple regression analysis, are illustrated in Table 4.8. All of the independent variables were entered as potential predictor variables using the stepwise procedure in SPSS. These included perceived social support, significant life events, length of time in present accommodation, satisfaction with living arrangements, depression, perceived health status, marital status, age, and gender. The nominal variables of gender and marital status were treated as dummy variables. They were dichotomized with 0 as male and 1 as female, and 0 as

Table 4.7

Mean Scores of Items in the Revised UCLA Loneliness Scale (n=74)

| | Items | Mean | SD |
|---|---|---|---|
| 1 | I feel in tune with people around me. | 1.6 | .61 |
| 2 | I lack companionship. | 2.3 | .94 |
| 3 | There is no one I can turn to. | 2.0 | 1.0 |
| 4 | I do not feel alone. | 1.9 | .91 |
| 5 | I feel part of a group of friends. | 1.7 | .87 |
| 6 | I have a lot in common with the people around me. | 1.7 | .79 |
| 7 | I am no longer close to anyone. | 2.2 | .99 |
| 8 | My interests and ideas are not shared by those around me | 2.6 | .92 |
| 9 | I am an outgoing person. | 1.8 | .91 |
| 10 | There are people I feel close to. | 1.3 | .58 |
| 11 | I feel left out. | 1.8 | .85 |
| 12 | My social relationships are superficial. | 2.2 | .92 |
| 13 | No one really knows me well. | 2.4 | .87 |
| 14 | I feel isolated from others. | 1.8 | .84 |
| 15 | I can find companionship when I want it. | 1.5 | .78 |
| 16 | There are people who really understand me. | 1.6 | .72 |
| 17 | I am unhappy being so withdrawn. | 1.7 | .89 |
| 18 | People are around me but not with me. | 2.4 | .91 |
| 19 | There are people I can talk to. | 1.3 | .57 |
| 20 | There are people I can turn to. | 1.4 | .78 |

Table 4.8

Stepwise Regression of Predictors of Loneliness

| Variable | B-values | Standard Error B | Beta | T | Significant T |
|---|---|---|---|---|---|
| Perceived Social Support | -.303388 | .037961 | -.644743 | -.7992 | .0000 |
| Depression | .408724 | .129040 | .255524 | 3.167 | .0023 |
| (Constant) | 73.531250 | 5.410622 | | 13.590 | .0000 |

$R^2$=.619

| ANOVA | df | SS | MS |
|---|---|---|---|
| Regression | 2 | 4219.468 | 2109.734 |
| Residual | 71 | 2596.977 | 36.577 |

F = 57.67901 Significant F = .0000

unmarried/alone and 1 as married/living together. To assess for the problem of multicollinearity, a correlation matrix among all of the variables was generated, and the bivariate correlations between the independent variables were examined (see Table 4.9). Any coefficients of .80 or larger may have suggested a concern, however the highest intercorrelation coefficient was only .54 between the variables length of time in present accommodation and age. To further rule out multicollinearity, the relationship of each independent variable with all of the others was assessed by regressing each variable on all of the others (Lewis-Beck, 1980). The $R^2$ values were also low, ranging from .07 to .40. Thus, it was concluded that multicollinearity was not a problem in this study.

The results of the regression analysis were examined for significant predictors of loneliness. These results indicate that perceived social support along with depression were the only reliable predictors. Perceived social support was the single best predictor of loneliness, with depression producing the largest increase to $R^2$ when used in combination with perceived social support. Perceived social support accounted for approximately 57% of the variance in loneliness scores, and depression explained an additional 5% of the variance. No other variables significantly increased the value of $R^2$. However, the proportion of the total variability in loneliness explained by the regression model with these two independent variables was fairly sizable at approximately 62%. The negative B-value of the variable perceived social support suggests that lower amounts of perceived support are associated with higher degrees of loneliness, and vice versa. That is, a one unit increase in the perceived social support scale results in a predicted .3033 unit decrease in loneliness. Increases in depression, however, are associated with increases in loneliness, and vice versa.

Table 4.9

Correlation Matrix Between Independent and Dependent Variables

| Item | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
|---|---|---|---|---|---|---|---|---|---|---|
| 1 AGE | 1.0 | .54** | .30** | -.05 | .01 | .29* | .26* | .04 | .22 | -.04 |
| 2 LOTPA | | 1.0 | .20 | -.11 | .14 | .20 | .14 | .05 | .05 | -.09 |
| 3 GEND | | | 1.0 | -.13 | -.08 | .44** | .13 | .33** | .02 | -.22 |
| 4 MSTAT | | | | 1.0 | -.12 | -.03 | .17 | -.09 | .08 | .20 |
| 5 PERHS | | | | | 1.0 | .23** | -.28* | .21 | -.40** | -.25* |
| 6 SLARR | | | | | | 1.0 | .06 | .32** | -.18 | -.23* |
| 7 LCE | | | | | | | 1.0 | -.06 | .37** | .14 |
| 8 PERSOCS | | | | | | | | 1.0 | -.42** | -.75** |
| 9 DEP | | | | | | | | | 1.0 | .53** |
| 10 LONE | | | | | | | | | | 1.0 |

*p=<.05
**p=<.01

LOTPA - Length of time in present accommodation
GEND - Gender
MSTAT - Marital status
PERHS - Perceived health status
SLARR - Satisfaction with living arrangements
LCE - Life change events (Negative)
PERSOCS - Perceived social support
DEP - Depression
LONE - Loneliness

A one unit increase in the depression scale results in a predicted .4087 unit increase in loneliness.

Correlations of Interest Between the Independent and Dependent Variables

Upon examination of the interitem correlation matrix between the independent and dependent variables (see Table 4.9 again), several correlations of significance were observed. For example, as age increased, so did length of time in present accommodations ($r=.54$, $p<.01$), satisfaction with living arrangements ($r=.29$, $p<.05$), and the impact of negative life change events ($r=.26$, $p<.05$). Higher levels of perceived health status were positively correlated with satisfaction with living arrangements ($r=.23$, $p<.01$), but inversely correlated with negative life change events ($r=-.28$, $p<.05$), and depression ($r=-.40$, $p<.01$). Satisfaction with living arrangements was positively correlated with perceived social support ($r=.32$, $p<.01$). Depression and negative life change events were positively correlated ($r=.37$, $p<.01$), but depression and perceived social support were inversely correlated ($r=-.42$, $p<.01$). Finally, loneliness was inversely correlated with perceived health status ($r=-.25$, $p<.05$), and satisfaction with living arrangements ($r=-.23$, $p<.05$). These two variables, however, did not have high enough partial correlation coefficients to be entered into the regression equation as reliable predictors of loneliness.

# CHAPTER V
# DISCUSSION

## Predictors of Loneliness: Perceived Social Support and Depression

The research question for this study addressed the relationship between the loneliness experienced by elderly tenants in subsidized seniors' apartment complexes, and perceived social support, significant life events, length of time in present accommodation, satisfaction with living arrangements, depression, perceived health status, marital status, age, and gender. Through completion of a stepwise multiple regression analysis, it was determined which of these independent variables best predicted the variability in the loneliness scores observed. Perceived social support and depression were reliable predictors, explaining 62% of the variance in loneliness scores. This finding in relation to perceived social support is consistent with that obtained in Jones and Moore's (1989) study of beginning college students, where satisfaction with support received made the largest contribution (28%) to the prediction of initial loneliness.

Ongoing research on perceived social support may be highly relevant to the continued study of loneliness in general. Sarason et al. (1986) suggest that an individual's level of perceived social support may, in fact, be a personality variable that influences what the environment provides in the way of support. This means that although the support a person has may partly be the result of what is provided and offered, it may depend as well on the social skills of the individual. These social skills are reflected in the individual's 'relational competence' which is likely influenced by developmental precursors in earlier life. This conceptualization of

perceived social support, viewed as an individual difference variable, is based upon research findings which indicate that: social support levels are stable over long periods of time, even during major life transitions; people with high support report having received higher degrees of affection, interest, and empathy from their parents than those with low support; and those with high support are better leaders and problem solvers than those with low support. The point at hand, is that these findings may have significant implications related to the ongoing search for appropriate and effective interventions for low levels of perceived social support, and, in turn, possible interventions for loneliness. That is, personality factors related to social support may be more important, or at least equally as important as externally focussed social support factors.

Results of a more recent study support the view that perceived social support is a two dimensional construct composed of relationship-specific perceptions and general perceptions of social support (Pierce, Sarason, & Sarason, 1991). Relationship-specific perceptions are grounded in prior experiences with specific others, and sets of expectations about the availability of support from each significant relationship are developed. Support in these specific relationships may or may not be perceived as forthcoming. In general, however, an individual may believe that other people will be supportive, overall. Research findings emphasize that expectations for support from specific relationships, and from people in general, remain distinct from each other. Further exploration of the role of personality characteristics and personal relationships in perceptions of available support, and, in turn, loneliness, is clearly warranted, as is research in this area specifically focussed on the elderly.

The results of the multiple regression analysis are also supportive of the findings in other studies of depression and loneliness. Investigations have shown that these two variables are consistently and substantially related (Berg et al., 1980; Russell et al., 1980; Schultz & Moore, 1984; Weeks et al., 1980; Young, 1982). However, further study is encouraged in order to determine more about their exact association (Perlman & Peplau, 1984). In this study, depression was conceptualized as a precursor to the occurrence of loneliness. The opposite conceptualization also warrants empirical investigation. In situations where loneliness is severe, it is not unreasonable to postulate that it may, in turn, lead to depression. Rook (1984) indicates that research on loneliness and depression needs to be integrated in order to find out more about the "potential exacerbating effects of loneliness on depression and vice-versa, and the temporal sequences that lead people from one condition to another" (p. 68).

The remainder of the independent variables of interest did not reliably predict the variability of loneliness in this study. One cause for concern may have been the imbalance and lack of discrimination within categories such as those associated with length of time in present accommodation, satisfaction with living arrangements, marital status, and perceived health status. For example, only 7 (9.6%) of the respondents had relocated to their present accommodations within the past year, and of these, only 4 (5.5%) had been in their accommodations for less than 6 months. However, given that 58 (78.3%) of the respondents had lived in their present accommodations for 2 years or more, it does not seem unreasonable that most (74.3%, n=55) were very satisfied with their present living arrangements. As well, considering a mean age of 75.81 years, it is not surprising that 41 (55.4%) of the

respondents were widowed, with only 7 (9.5%) married, and the remainder either never married (14.9%, n=11), or separated/divorced (20.3%, n=15). Finally, perceived health status scores were rated as very good (32.4%, n=24), good (33.8%, n=25), or fair (28.4%, n=21), with only 2 respondents (2.7%) rating their health as poor. Because individuals must be reasonably independent to live in seniors' apartment complexes, it does not seem likely that many who rate their health as poor would be able to continue their tenancy in these places, or desire to do so. Thus, although all of these results are understandable, greater numbers of subjects within several of the categories related to each of these variables may have resulted in a different and more accurate representation of their impact on loneliness.

## General Discussion

The mean loneliness score in this sample was 37.47. This score can be compared to loneliness scores in other studies where the revised UCLA scale was used. It is comparable to the mean score of 36.26 in a sample of 57 retired older adults living in South Carolina, whose average age was 64.9 years (Schultz & Moore, 1984). It is also comparable to the mean score of 37.80 (SD=8.06) in a sample of 107 older people attending classes in the state of Arkansas, whose average age was 71.2 years (Walton et al., 1991). However, it is greater than the mean score of 31.51 (SD=6.92) found in a group of 284 community residing older people (Russell & Cutrona cited in Walton et al., 1991). Even though perceived social support and depression were the only reliable predictors of loneliness in this study, higher loneliness scores were associated with a decreased satisfaction with living arrangements ($r=-.23$, $p<.05$). There is a possibility that this could still be a

meaningful factor in the occurrence of loneliness, and continued study may be of benefit to further assess the relationship between loneliness in the elderly and their satisfaction with a variety of living arrangements. However, it is possible that this loneliness score might also be a reflection of the lower income levels of individuals who choose subsidized accommodation. Research results have shown that the percentage of those who are lonely increases as income levels decrease, which may be reflective of the greater importance of economic and other social status influences upon loneliness (Page & Cole, 1991).

The mean perceived social support score obtained in this study was 128.86. This is lower than the mean scores for three samples of middle-class adults drawn from the general population, where the same measurement scale was used. These scores ranged from 139.03 to 142.78 (Weinert, 1987). Other than its being a reliable predictor of loneliness, it is interesting to note that lower levels of perceived social support were also associated with a decreased satisfaction with living arrangements ($r=.32$, $p<.01$). Continued exploration of the conceptual link between these two variables and loneliness might be useful. It could be that satisfaction with living arrangements predicts some of the variance for perceived social support, which, in turn, predicts some of the variance for loneliness. Again, further study may be warranted to determine if perceived social support varies in the elderly according to satisfaction or dissatisfaction with different types of living arrangements.

The mean depression score of 7.43 fell well within the normal range for this scale. Again, other than its being a reliable predictor of loneliness, of interest is that higher levels of depression were associated with lower perceived health status ($r=-.40$, $p<.01$), lower perceived social support ($r=-.42$, $p<.01$), and higher negative life

change scores (r=.37, p<.01). These findings are not unexpected, and are congruent with other research findings related to depression (Yesavage, et al., 1983).

Gender was not a reliable predictor of loneliness in this study, although the mean loneliness score for men (41.05) was higher than the mean score for women (36.24). This does seem contradictory to the results of other researchers who have reported that loneliness is a greater problem for women than men (Berg et al., 1981; Borys & Perlman; 1985, Page & Cole, 1991). The difference, however, may be related somewhat to the way in which loneliness has been assessed in many of these studies. Frequently, a single self-report question similar to "Do you feel lonely?" has been used, with "often, sometimes, rarely or never" as responses. If, as has been suggested by these researchers, men are less likely to admit to being lonely than women, biased responses could be forthcoming from single self-report questions such as this. This is less of a problem with an instrument like the revised UCLA scale, and the results obtained may, indeed, be reflective of this.

Age was not a reliable predictor of loneliness in this study, even among the very old (80 or over) who constituted 36.5% (n=27) of the sample. This finding does not confirm those in Dean's (1962) and Tunstall's (1967) studies where there was a notable increase in loneliness among those who were 80 years and over. Perlman and Peplau (1984) suggest that as individuals get older, they may tend to set more reasonable standards and expectations for relationships, and, in fact, experience less loneliness.

Negative life change scores did not contribute significantly to the variance for loneliness either. Only 4 individuals in the sample had lost a spouse within the past year, although 14 others had suffered the loss of a close friend. Loneliness has been

significantly correlated to the loss of a closely attached other in previous studies (Lopata, 1980; Townsend, 1968; West, et al., 1986). It seems likely that other negative life events, especially those that impact upon social relationships, might also affect the occurrence of loneliness. These might include decreased closeness of family members, or decreased participation in social or church activities. However, the results from this study were not reflective of this. Upon examination of the raw data, it is apparent that loss of a spouse or a close friend were considered extremely negative events by many of those who experienced them. Overall negative life change scores, though, were very low, ranging from 1 to only 21, with a mean score of 6.83. This is likely the result of the much lower rating given to the impact of many other negative events that were experienced. Thus, it may be that the often extremely negative impact of events such as loss of a spouse or close friend, should be assessed independently of other negative life events that have little impact. Again, this could result in a different, and, perhaps, more accurate representation of their association with loneliness. Higher negative life change scores were also associated with lower perceived health status ratings ($r=-.28$, $p<.05$). Several of these negative events have an obvious and logical relationship to health perceptions, including major personal illness or injury, loss of mobility, and major changes in eating and sleeping habits.

## Implications for Nursing

The data from this study were described according to variables assessed in 74 tenants of seniors' apartment complexes. The mean loneliness level was similar or higher than reported in other studies and the mean perceived social support level was lower. Depression scores were within the normal range. A multiple regression

analysis was completed to determine potential predictors of loneliness. Perceived social support and depression predicted 62% of the variance in loneliness scores in this group of individuals.

Several implications for nursing are suggested in relation to these results. An awareness of the potential for higher levels of loneliness and lower levels of perceived social support in elderly who reside in subsidized seniors' apartment complexes is important. Nurses who seek to help lonely seniors may find it useful to assess how these individuals perceive their support systems. An understanding of individual needs and perceptions related to what has previously been viewed as supportive could be helpful in finding support that is fulfilling to them in the present. However, if perceived social support is a function of personality factors, other considerations for intervention may also be required. French (cited in Sarason et al., 1986) states that people who perceive their support as low "may differ from others, not so much in their pertinent knowledge of the scripts for solving social problems, but in their lack of confidence about their ability to use these scripts effectively in social situations" (p. 854). If this is the case, then individuals who perceive their support as low may require assistance to strengthen their relational skills, rather than simply being provided with additional support (Sarason et al., 1986). Thus, along with finding appropriate types of support for the elderly who are lonely, nurses may need to consider intervention measures such as relational skills therapy. Further, nurses who seek to help individuals who are lonely must be aware of the possibility that depression may also be a part of the overall problem. If severe enough, the potential for suicide may need to be dealt with. Indeed, treatment for depression will likely be a priority in cases where it is severe.

Lastly, ongoing management of loneliness in elderly individuals may certainly require collaboration between nursing and other professionals. However, nurses who work with these individuals in the community will likely be the the first to identify a loneliness problem and recognize the need for some form of assistance. The decision, then, will be to determine the most appropriate plan of action by assessing the potential usefulness of the support and assistance that is available, and mobilizing it, as appropriate. As well, it may be equally important for nurses to consider becoming involved in intervention planning and evaluation activities that are solidly based in research, in an attempt to find improved methods for controlling or alleviating loneliness in the elderly.

# CHAPTER VI

## CONCLUSIONS AND RECOMMENDATIONS

This study has provided knowledge of the impact of specific situational, emotional, and personal variables upon loneliness in elderly individuals residing in subsidized seniors' apartment complexes. In order to plan effective strategies to assist the elderly who are lonely, nurses must have an understanding of the factors that influence it. The variables of perceived social support and depression predicted 62% of the variance for loneliness in these individuals.

In order to enhance the external validity and increase the generalizability of this study, it is recommended that it be replicated with similar samples of elderly individuals residing in seniors' apartment complexes, as well with as other populations of community dwelling elderly people. A larger, randomly drawn sample would also increase the reliability and validity of the findings. Of concern, is whether elderly respondents who were most lonely did not bother to respond to the questionnaire. Obtaining assistance from other professionals through programs such as home care, could be one way for researchers to find, gain access to, and study those who have the potential to be even lonelier. This could result in stronger and more reliable study results, overall. Very lonely elderly may be receptive to direct in person contact and a more successful response rate to another study might be obtained through researcher-subject interview sessions. This would require a significant time commitment, however.

Most individuals in the sample had lived in their present accommodations for 2 years or more and were very satisfied with their living arrangements. A

longitudinal study, assessing tenants within their first few months of occupancy and again at specific time intervals, might be more effective in determining whether loneliness is influenced by these factors. This, in turn, could provide information related to the need for an adjustment period, but could also be helpful in the development of specific interventions to assist in making the adjustment less difficult. Further and more indepth exploration of the influence of perceived social support, as conceptualized by Pierce et al. (1991) and Sarason et al. (1986), where the influence of personality characteristics, personal relationships, and relational skills are assessed in relation to loneliness in the elderly, might contribute data of greater value and use. A longitudinal study would also be helpful in identifying significant changes in loneliness and the possible contributing factors over time, and would help to clarify the exact nature of some of the relationships being explored. Lastly, not all possible predictors of loneliness in the elderly were considered. An exploration of the role of cognitive function deficits in explaining loneliness in the elderly could yield information of use, as could an exploration of the role of spiritual well-being in explaining loneliness.

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Appendix A

Letter of Introduction

My name is Lois Andruski. I am a graduate student in nursing at the University of Alberta. I have been given permission from the apartment manager to enter your building. I am asking you to take part in a study for my master's thesis. I am interested in finding out the kinds of changes you may have had in your life during the past year, and whether those changes have made a difference to the support and help that is available to you. I would also like to know if living in a seniors' building has made a difference in the people whom you see from day to day, and how satisfied you are when you spend time with these people. Lastly, I am interested in knowing if any of these has had an effect on your overall feeling of well-being. There are no direct benefits to you for taking part in this study. However, it is hoped that nurses who work in the community will be able to use the information to understand better, the needs and care required by senior citizens who live in the community.

I am asking you to fill out a form that asks a series of questions. The first part of the form asks for general information about yourself, your living arrangements, and your health. The second part asks questions about the support you have available and how you feel about it. There are no right or wrong answers to the questions. I am only interested in knowing what your true feelings are. This should take about 30 to 45 minutes of your time. If you need to, you can take a break at any time as you are filling in the form. There are no risks involved in completing the form unless it is uncomfortable for you to share this information with me.

You are completely free to choose not to fill in the form if you do not wish to. By filling in the form, you are indicating your consent to take part in my study. Any information that you give me will be completely confidential. Only a number will appear at the top of the form. Please do not put your name on it. There will be no way for anyone to know who you are except for myself. Your individual responses will not be made available. Only group responses will be used in the final report. If any further use is made of the information obtained from this study, the purposes will first be submitted to an ethics review committee for approval. If your answers to the questions on the form show that your level of well-being is low, I will let you know and assist you to find some help. I will not be able to provide you with any kind of nursing care myself.

If you choose to complete the form, you can drop it off in the box located just inside the door of the manager's office. This box is easy to spot and is well marked with: "QUESTIONNAIRES FOR NURSE". The box is sealed with a slot in the top. The only person who will be able to open the box to remove the questionnaires is myself.

If you would like further information, please feel free to contact me at the following phone number: **437-6647.** If you would like to complete the form, but need help, I will be available to assist you in room _____ of your apartment building on the date of _____ from _____ PM to _____ PM. **You can also contact me at my phone number if you would like to arrange another date and time for me to assist you to complete the form**.

The name of my supervisor is:

Dr. Janet Ross Kerr
Professor of Nursing, University of Alberta
Phone: 492-6253

Thank you very much for the time you have taken to assist me with this study.

Lois Andruski
Master of Nursing Candidate
Faculty of Nursing, University of Alberta

Appendix B

Demographic, Living Arrangement, and Health Status Information

Code Number_____

1. What is your date of birth? (**Please fill in exact year, month and day**)

_____ /_____ /____
Year Month Day

2. How long have you lived in this apartment building? (**Please fill in approximate number of years and months**)

____ years and ____ months.

For the following, please place a **check-mark** in the appropriate space:

3. What is your gender? 1. Female___ 2. Male___

4. What is your current marital status?

1. Never married___
2. Married___
3. Divorced___
4. Separated___
5. Widowed___

5. What are your present living arrangements?

1. Alone___
2. With Other___ (What is the relationship of that person to you?)_____

6. How satisfied are you with your present living arrangements?

    1. Very satisfied___
    2. Fairly satisfied___
    3. Neither satisfied or dissatisfied___
    4. Fairly dissatisfied___
    5. Dissatisfied___

7. How would you rate the overall state of your health at the present time?

    1. Excellent___
    2. Very Good___
    3. Good___
    4. Fair___
    5. Poor___

Appendix C

Life Experiences Survey (Section I)

Listed below are events that sometimes bring about change in the lives of those who experience them. Many of the events that have been listed will **NOT** apply to you. Please place a **check-mark** next to the events that **you HAVE experienced during the last year**.

Then, **for each event that you have checked**, please **circle** the number that **best** describes the effect the event has had on you. A **-3** would indicate an extremely negative effect. A **0** suggests no effect either positive or negative. A **+3** would indicate an extremely positive effect.

| | | **Check** (√) if this event has happened to you within the last year: | **Circle** the number showing the effect the event has had on you: | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | | **Extremely Negative** | | | **No Effect** | | | **Extremely Positive** |
| 1. | Marriage | ___ | -3 | -2 | -1 | 0 | +1 | +2 | +3 |
| 2. | Detention in jail | ___ | -3 | -2 | -1 | 0 | +1 | +2 | +3 |
| 3. | Death of spouse | ___ | -3 | -2 | -1 | 0 | +1 | +2 | +3 |
| 4. | Major change in sleeping habits (much more or less sleep) | ___ | -3 | -2 | -1 | 0 | +1 | +2 | +3 |
| 5. | Death of close family member: | | | | | | | | |
| | a. mother | ___ | -3 | -2 | -1 | 0 | +1 | +2 | +3 |
| | b. father | ___ | -3 | -2 | -1 | 0 | +1 | +2 | +3 |
| | c. brother | ___ | -3 | -2 | -1 | 0 | +1 | +2 | +3 |
| | d. sister | ___ | -3 | -2 | -1 | 0 | +1 | +2 | +3 |
| | e. child | ___ | -3 | -2 | -1 | 0 | +1 | +2 | +3 |
| | f. other (specify) _____ | ___ | -3 | -2 | -1 | 0 | +1 | +2 | +3 |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 6. | Major change in eating habits (Much more or much less food intake) | __ | -3 | -2 | -1 | 0 | +1 | +2 | +3 |
| 7. | Foreclosure on mortgage or loan | __ | -3 | -2 | -1 | 0 | +1 | +2 | +3 |
| 8. | Death of close friend | __ | -3 | -2 | -1 | 0 | +1 | +2 | +3 |
| 9. | Outstanding personal achievement | __ | -3 | -2 | -1 | 0 | +1 | +2 | +3 |
| 10. | Minor law violations (traffic tickets, etc.) | __ | -3 | -2 | -1 | 0 | +1 | +2 | +3 |
| 11. | Changed work situation (different work responsibility, major change in working conditions, working hours, etc.) | __ | -3 | -2 | -1 | 0 | +1 | +2 | +3 |
| 12. | New job | __ | -3 | -2 | -1 | 0 | +1 | +2 | +3 |
| 13. | Serious illness or injury of close family member: | | | | | | | | |
| | a. father | __ | -3 | -2 | -1 | 0 | +1 | +2 | +3 |
| | b. mother | __ | -3 | -2 | -1 | 0 | +1 | +2 | +3 |
| | c. sister | __ | -3 | -2 | -1 | 0 | +1 | +2 | +3 |
| | d. brother | __ | -3 | -2 | -1 | 0 | +1 | +2 | +3 |
| | e. child | __ | -3 | -2 | -1 | 0 | +1 | +2 | +3 |
| | f. spouse | __ | -3 | -2 | -1 | 0 | +1 | +2 | +3 |
| | g. other (specify) _____ | __ | -3 | -2 | -1 | 0 | +1 | +2 | +3 |
| 14. | Sexual difficulties | __ | -3 | -2 | -1 | 0 | +1 | +2 | +3 |
| 15. | Trouble with employer (in danger of losing job, being suspended, etc.) | __ | -3 | -2 | -1 | 0 | +1 | +2 | +3 |
| 16. | Trouble with in-laws | __ | -3 | -2 | -1 | 0 | +1 | +2 | +3 |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 17. | Major change in financial status (a lot better or a lot worse off) | __ | -3 | -2 | -1 | 0 | +1 | +2 | +3 |
| 18. | Major change in closeness of family members (increased or decreased closeness) | __ | -3 | -2 | -1 | 0 | +1 | +2 | +3 |
| 19. | Gaining a new family member (through birth, adoption, family member moving in, etc.) | __ | -3 | -2 | -1 | 0 | +1 | +2 | +3 |
| 20. | Change of residence | __ | -3 | -2 | -1 | 0 | +1 | +2 | +3 |
| 21. | Marital separation from mate (due to conflict) | __ | -3 | -2 | -1 | 0 | +1 | +2 | +3 |
| 22. | Major change in church activities (increased or decreased attendance) | __ | -3 | -2 | -1 | 0 | +1 | +2 | +3 |
| 23. | Marital reconciliation with mate | __ | -3 | -2 | -1 | 0 | +1 | +2 | +3 |
| 24. | Major change in number of arguments with spouse (a lot more or a lot less arguments) | __ | -3 | -2 | -1 | 0 | +1 | +2 | +3 |
| 25. | Married male: Change in wife's work outside the home (beginning work, ceasing work, changing work) | __ | -3 | -2 | -1 | 0 | +1 | +2 | +3 |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 26. | Married female: Change in husband's work (loss of job, beginning new job, retirement, etc.) | __ | -3 | -2 | -1 | 0 | +1 | +2 | +3 |
| 27. | Major change in usual type and/or amount of recreation | __ | -3 | -2 | -1 | 0 | +1 | +2 | +3 |
| 28. | Borrowing more than $10,000 (buying home, business, etc.) | __ | -3 | -2 | -1 | 0 | +1 | +2 | +3 |
| 29. | Borrowing less than $10,000 (buying car, TV, getting school loan, etc.) | __ | -3 | -2 | -1 | 0 | +1 | +2 | +3 |
| 30. | Being fired from job | __ | -3 | -2 | -1 | 0 | +1 | +2 | +3 |
| 31. | Major personal illness or injury | __ | -3 | -2 | -1 | 0 | +1 | +2 | +3 |
| 32. | Major change in social activities, eg., parties, movies, visiting (increased or decreased participation) | __ | -3 | -2 | -1 | 0 | +1 | +2 | +3 |
| 33. | Major change in living conditions of family (building new home, remodeling, deterioration of home, neighborhood) | __ | -3 | -2 | -1 | 0 | +1 | +2 | +3 |
| 34. | Divorce | __ | -3 | -2 | -1 | 0 | +1 | +2 | +3 |
| 35. | Serious injury or illness of close friend | __ | -3 | -2 | -1 | 0 | +1 | +2 | +3 |
| 36. | Retirement from work | __ | -3 | -2 | -1 | 0 | +1 | +2 | +3 |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 37. | Son or daughter leaving home (due to marriage, college, etc.) | __ | -3 | -2 | -1 | 0 | +1 | +2 | +3 |
| 38. | Separation from spouse (due to work travel, etc.) | __ | -3 | -2 | -1 | 0 | +1 | +2 | +3 |
| 39. | Engagement | __ | -3 | -2 | -1 | 0 | +1 | +2 | +3 |
| 40. | Breaking up with male friend or female friend | __ | -3 | -2 | -1 | 0 | +1 | +2 | +3 |
| 41. | Reconciliation with male friend or female friend | __ | -3 | -2 | -1 | 0 | +1 | +2 | +3 |
| Other recent experiences which have had an effect on your life. List and rate: | | | | | | | | | |
| 42. | _____ | __ | -3 | -2 | -1 | 0 | +1 | +2 | +3 |
| 43. | _____ | __ | -3 | -2 | -1 | 0 | +1 | +2 | +3 |
| 44. | _____ | __ | -3 | -2 | -1 | 0 | +1 | +2 | +3 |

**Adapted from**: Sarason, I. G., Johnson, J. H., & Siegel, J. M. (1978). Assessing the impact of life changes: Development of the life experiences survey. Journal of Consulting and Clinical Psychology, 46, 932-946.

Appendix D

The Personal Resource Questionnaire - Part II

Below are some statements with which some people agree and others disagree.

Please read **each** statement and **circle** the answer that describes you the **best**.

1. There is someone I feel close to who makes me feel secure.

| Strongly agree | Agree | Somewhat agree | Neutral | Somewhat disagree | Disagree | Strongly disagree |
|---|---|---|---|---|---|---|
| 7 | 6 | 5 | 4 | 3 | 2 | 1 |

2. I belong to a group in which I feel important.

| Strongly agree | Agree | Somewhat agree | Neutral | Somewhat disagree | Disagree | Strongly disagree |
|---|---|---|---|---|---|---|
| 7 | 6 | 5 | 4 | 3 | 2 | 1 |

3. People let me know that I do well at my work (job, homemaking).

| Strongly agree | Agree | Somewhat agree | Neutral | Somewhat disagree | Disagree | Strongly disagree |
|---|---|---|---|---|---|---|
| 7 | 6 | 5 | 4 | 3 | 2 | 1 |

4. I can't count on my relatives and friends to help me with problems.[a]

| Strongly agree | Agree | Somewhat agree | Neutral | Somewhat disagree | Disagree | Strongly disagree |
|---|---|---|---|---|---|---|
| 7 | 6 | 5 | 4 | 3 | 2 | 1 |

5. I have enough contact with the person who makes me feel special.

| Strongly agree | Agree | Somewhat agree | Neutral | Somewhat disagree | Disagree | Strongly disagree |
|---|---|---|---|---|---|---|
| 7 | 6 | 5 | 4 | 3 | 2 | 1 |

6. I spend time with others who have the same interests that I do.

| Strongly agree | Agree | Somewhat agree | Neutral | Somewhat disagree | Disagree | Strongly disagree |
|---|---|---|---|---|---|---|
| 7 | 6 | 5 | 4 | 3 | 2 | 1 |

7. There is little opportunity in my life to be giving and caring to another person.[a]

| Strongly agree | Agree | Somewhat agree | Neutral | Somewhat disagree | Disagree | Strongly disagree |
|---|---|---|---|---|---|---|
| 7 | 6 | 5 | 4 | 3 | 2 | 1 |

8. Others let me know that they enjoy working with me (job, committees, projects).

| Strongly agree | Agree | Somewhat agree | Neutral | Somewhat disagree | Disagree | Strongly disagree |
|---|---|---|---|---|---|---|
| 7 | 6 | 5 | 4 | 3 | 2 | 1 |

9. There are people who are available if I needed help over an extended period of time.

| Strongly agree | Agree | Somewhat agree | Neutral | Somewhat disagree | Disagree | Strongly disagree |
|---|---|---|---|---|---|---|
| 7 | 6 | 5 | 4 | 3 | 2 | 1 |

10. There is no one to talk to about how I am feeling.[a]

| Strongly agree | Agree | Somewhat agree | Neutral | Somewhat disagree | Disagree | Strongly disagree |
|---|---|---|---|---|---|---|
| 7 | 6 | 5 | 4 | 3 | 2 | 1 |

11. Among my group of friends we do favors for each other.

| Strongly agree | Agree | Somewhat agree | Neutral | Somewhat disagree | Disagree | Strongly disagree |
|---|---|---|---|---|---|---|
| 7 | 6 | 5 | 4 | 3 | 2 | 1 |

12. I have the opportunity to encourage others to develop their interests and skills.

| Strongly agree | Agree | Somewhat agree | Neutral | Somewhat disagree | Disagree | Strongly disagree |
|---|---|---|---|---|---|---|
| 7 | 6 | 5 | 4 | 3 | 2 | 1 |

13. My family lets me know that I am important for keeping the family running.

| Strongly agree | Agree | Somewhat agree | Neutral | Somewhat disagree | Disagree | Strongly disagree |
|---|---|---|---|---|---|---|
| 7 | 6 | 5 | 4 | 3 | 2 | 1 |

14. I have relatives or friends who will help me out even if I can't pay them back.

| Strongly agree | Agree | Somewhat agree | Neutral | Somewhat disagree | Disagree | Strongly disagree |
|---|---|---|---|---|---|---|
| 7 | 6 | 5 | 4 | 3 | 2 | 1 |

15. When I am upset, there is someone I can be with who lets me be myself.

| Strongly agree | Agree | Somewhat agree | Neutral | Somewhat disagree | Disagree | Strongly disagree |
|---|---|---|---|---|---|---|
| 7 | 6 | 5 | 4 | 3 | 2 | 1 |

16. I feel no one has the same problems as I.[a]

| Strongly agree | Agree | Somewhat agree | Neutral | Somewhat disagree | Disagree | Strongly disagree |
|---|---|---|---|---|---|---|
| 7 | 6 | 5 | 4 | 3 | 2 | 1 |

17. I enjoy doing little "extra" things that make another person's life more pleasant.

| Strongly agree | Agree | Somewhat agree | Neutral | Somewhat disagree | Disagree | Strongly disagree |
|---|---|---|---|---|---|---|
| 7 | 6 | 5 | 4 | 3 | 2 | 1 |

18. I know that others appreciate me as a person.

| Strongly agree | Agree | Somewhat agree | Neutral | Somewhat disagree | Disagree | Strongly disagree |
|---|---|---|---|---|---|---|
| 7 | 6 | 5 | 4 | 3 | 2 | 1 |

19. There is someone who loves and cares about me.

| Strongly agree | Agree | Somewhat agree | Neutral | Somewhat disagree | Disagree | Strongly disagree |
|---|---|---|---|---|---|---|
| 7 | 6 | 5 | 4 | 3 | 2 | 1 |

20. I have people to share social events and fun activities with.

| Strongly agree | Agree | Somewhat agree | Neutral | Somewhat disagree | Disagree | Strongly disagree |
|---|---|---|---|---|---|---|
| 7 | 6 | 5 | 4 | 3 | 2 | 1 |

21. I am responsible for helping provide for another person's needs.

| Strongly agree | Agree | Somewhat agree | Neutral | Somewhat disagree | Disagree | Strongly disagree |
|---|---|---|---|---|---|---|
| 7 | 6 | 5 | 4 | 3 | 2 | 1 |

22. If I need advice there is someone who would assist me to work out a plan for dealing with the situation.

| Strongly agree | Agree | Somewhat agree | Neutral | Somewhat disagree | Disagree | Strongly disagree |
|---|---|---|---|---|---|---|
| 7 | 6 | 5 | 4 | 3 | 2 | 1 |

23. I have a sense of being needed by another person.

| Strongly agree | Agree | Somewhat agree | Neutral | Somewhat disagree | Disagree | Strongly disagree |
|---|---|---|---|---|---|---|
| 7 | 6 | 5 | 4 | 3 | 2 | 1 |

24. People think that I'm not as good a friend as I should be.[a]

| Strongly agree | Agree | Somewhat agree | Neutral | Somewhat disagree | Disagree | Strongly disagree |
|---|---|---|---|---|---|---|
| 7 | 6 | 5 | 4 | 3 | 2 | 1 |

25. If I got sick there is someone to give me advice about caring for myself.

| Strongly agree | Agree | Somewhat agree | Neutral | Somewhat disagree | Disagree | Strongly disagree |
|---|---|---|---|---|---|---|
| 7 | 6 | 5 | 4 | 3 | 2 | 1 |

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[a]Item should be reversed (ie. 1=7, 2=6, 3=5, 4=4, 5=3, 6=2, 7=1) before scoring.

Weinert, C. (1988). Measuring social support: Revision and further development of the personal resource questionnaire. In C. F. Waltz & O. L. Strickland (Eds.), Measurement of nursing outcomes: Volume one: Measuring client outcomes (pp. 309-327). New York: Springer Publishing Company.

Appendix E

Geriatric Depression Scale

Please **circle** the best answer - either **YES** or **NO** - for how you have felt over the past week.

| | | |
|---|---|---|
| 1. | Are you basically satisfied with your life? | YES or NO |
| 2. | Have you dropped many of your activities and interests? | YES or NO |
| 3. | Do you feel that your life is empty? | YES or NO |
| 4. | Do you often get bored? | YES or NO |
| 5. | Are you hopeful about the future? | YES or NO |
| 6. | Are you bothered by thoughts you can't get out of your head? | YES or NO |
| 7 | Are you in good spirits most of the time? | YES or NO |
| 8. | Are you afraid that something bad is going to happen to you? | YES or NO |
| 9. | Do you feel happy most of the time? | YES or NO |
| 10. | Do you often feel helpless? | YES or NO |
| 11. | Do you often get restless and fidgety? | YES or NO |
| 12. | Do you prefer to stay at home, rather than going out and doing new things? | YES or NO |
| 13. | Do you frequently worry about the future? | YES or NO |
| 14. | Do you feel you have more problems with memory than most? | YES or NO |
| 15. | Do you think it is wonderful to be alive now? | YES or NO |
| 16. | Do you often feel downhearted and blue? | YES or NO |
| 17. | Do you feel pretty worthless the way you are now? | YES or NO |
| 18. | Do you worry a lot about the past? | YES or NO |

| | |
|---|---|
| 19. Do you find life very exciting? | YES or NO |
| 20. Is it hard for you to get started on new projects? | YES or NO |
| 21. Do you feel full of energy? | YES or NO |
| 22. Do you feel that your situation is hopeless? | YES or NO |
| 23. Do you think that most people are better off than you are? | YES or NO |
| 24. Do you frequently get upset over little things? | YES or NO |
| 25. Do you frequently feel like crying? | YES or NO |
| 26. Do you have trouble concentrating? | YES or NO |
| 27. Do you enjoy getting up in the morning? | YES or NO |
| 28. Do you prefer to avoid social gatherings? | YES or NO |
| 29. Is it easy for you to make decisions? | YES or NO |
| 30. Is your mind as clear as it used to be? | YES or NO |

Yesavage, J. A., Brink, T. L, Rose, T. L, Lum, O., Huang, V., Adey, M., & Leirer, V. O. (1983). Development and validation of a geriatric depression screening scale: A preliminary report. Journal of Psychiatric Research 17, 37-49.

Appendix F

Revised UCLA Loneliness Scale

Please read **each** of the statements below and **circle** the answer that **best** describes how you are feeling.

1. I feel in tune with the people around me.[a]

| Never | Rarely | Sometimes | Often |
|---|---|---|---|
| 1 | 2 | 3 | 4 |

2. I lack companionship.

| Never | Rarely | Sometimes | Often |
|---|---|---|---|
| 1 | 2 | 3 | 4 |

3. There is no one I can turn to.

| Never | Rarely | Sometimes | Often |
|---|---|---|---|
| 1 | 2 | 3 | 4 |

4. I do not feel alone.[a]

| Never | Rarely | Sometimes | Often |
|---|---|---|---|
| 1 | 2 | 3 | 4 |

5. I feel part of a group of friends.[a]

| Never | Rarely | Sometimes | Often |
|---|---|---|---|
| 1 | 2 | 3 | 4 |

6. I have a lot in common with the people around me.[a]

| Never | Rarely | Sometimes | Often |
|---|---|---|---|
| 1 | 2 | 3 | 4 |

7. I am no longer close to anyone.

| Never | Rarely | Sometimes | Often |
|---|---|---|---|
| 1 | 2 | 3 | 4 |

8. My interests and ideas are not shared by those around me.

| Never | Rarely | Sometimes | Often |
|---|---|---|---|
| 1 | 2 | 3 | 4 |

9. I am an outgoing person.[a]

| Never | Rarely | Sometimes | Often |
|---|---|---|---|
| 1 | 2 | 3 | 4 |

10. There are people I feel close to.[a]

| Never | Rarely | Sometimes | Often |
|---|---|---|---|
| 1 | 2 | 3 | 4 |

11. I feel left out.

| Never | Rarely | Sometimes | Often |
|---|---|---|---|
| 1 | 2 | 3 | 4 |

12. My social relationships are superficial.

| Never | Rarely | Sometimes | Often |
|---|---|---|---|
| 1 | 2 | 3 | 4 |

13. No one really knows me well.

| Never | Rarely | Sometimes | Often |
|---|---|---|---|
| 1 | 2 | 3 | 4 |

14. I feel isolated from others.

| Never | Rarely | Sometimes | Often |
|---|---|---|---|
| 1 | 2 | 3 | 4 |

15. I can find companionship when I want it.[a]

| Never | Rarely | Sometimes | Often |
|---|---|---|---|
| 1 | 2 | 3 | 4 |

16. There are people who really understand me.[a]

| Never | Rarely | Sometimes | Often |
|---|---|---|---|
| 1 | 2 | 3 | 4 |

17. I am unhappy being so withdrawn.

| Never | Rarely | Sometimes | Often |
|---|---|---|---|
| 1 | 2 | 3 | 4 |

18. People are around me but not with me.

| Never | Rarely | Sometimes | Often |
|---|---|---|---|
| 1 | 2 | 3 | 4 |

19. There are people I can talk to.[a]

| Never | Rarely | Sometimes | Often |
|---|---|---|---|
| 1 | 2 | 3 | 4 |

20. There are people I can turn to.[a]

| Never | Rarely | Sometimes | Often |
|---|---|---|---|
| 1 | 2 | 3 | 4 |

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[a]Item should be reversed (ie. 1=4, 2=3, 3=2, 4=1) before scoring.

Russell, D., Peplau, L. A., & Cutrona, C. E. (1980). The revised UCLA loneliness scale: Concurrent and discriminant validity evidence. Journal of Personality and Social Psychology, 39, 472-480.